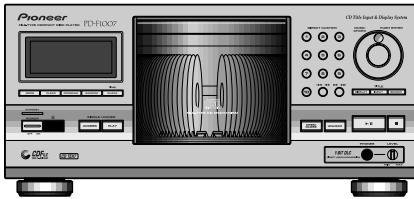


Pioneer

Service Manual



ORDER NO.
RRV2001

FILE-TYPE CD PLAYER

PD-F1007

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PD-F1007		
KU	○	AC120V	

CONTENTS

1. SAFETY INFORMATION	2	7. GENERAL INFORMATION	44
2. EXPLODED VIEWS AND PARTS LIST	3	7.1 PARTS	44
3. SCHEMATIC DIAGRAM	10	7.1.1 IC	44
4. PCB CONNECTION DIAGRAM	22	7.1.2 DISPLAY	47
5. PCB PARTS LIST	30	7.2 DIAGNOSIS	48
6. ADJUSTMENT	34	7.2.1 DISASSEMBLY	48
		7.2.2 ERROR CCHECK DISPLAY	51
		7.2.3 EXPLANATION OF DISC DETECTION	52
		7.3 BLOCK DIAGRAM	54
		8. PANEL FACILITIES AND SPECIFICATIONS	55

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan

PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.

PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium

PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Wheelock Place, Singapore 238880

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

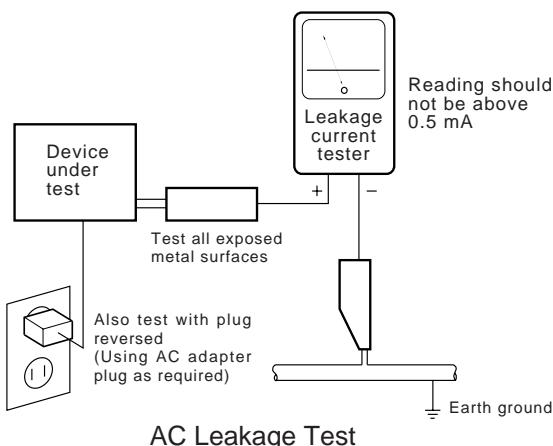
2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

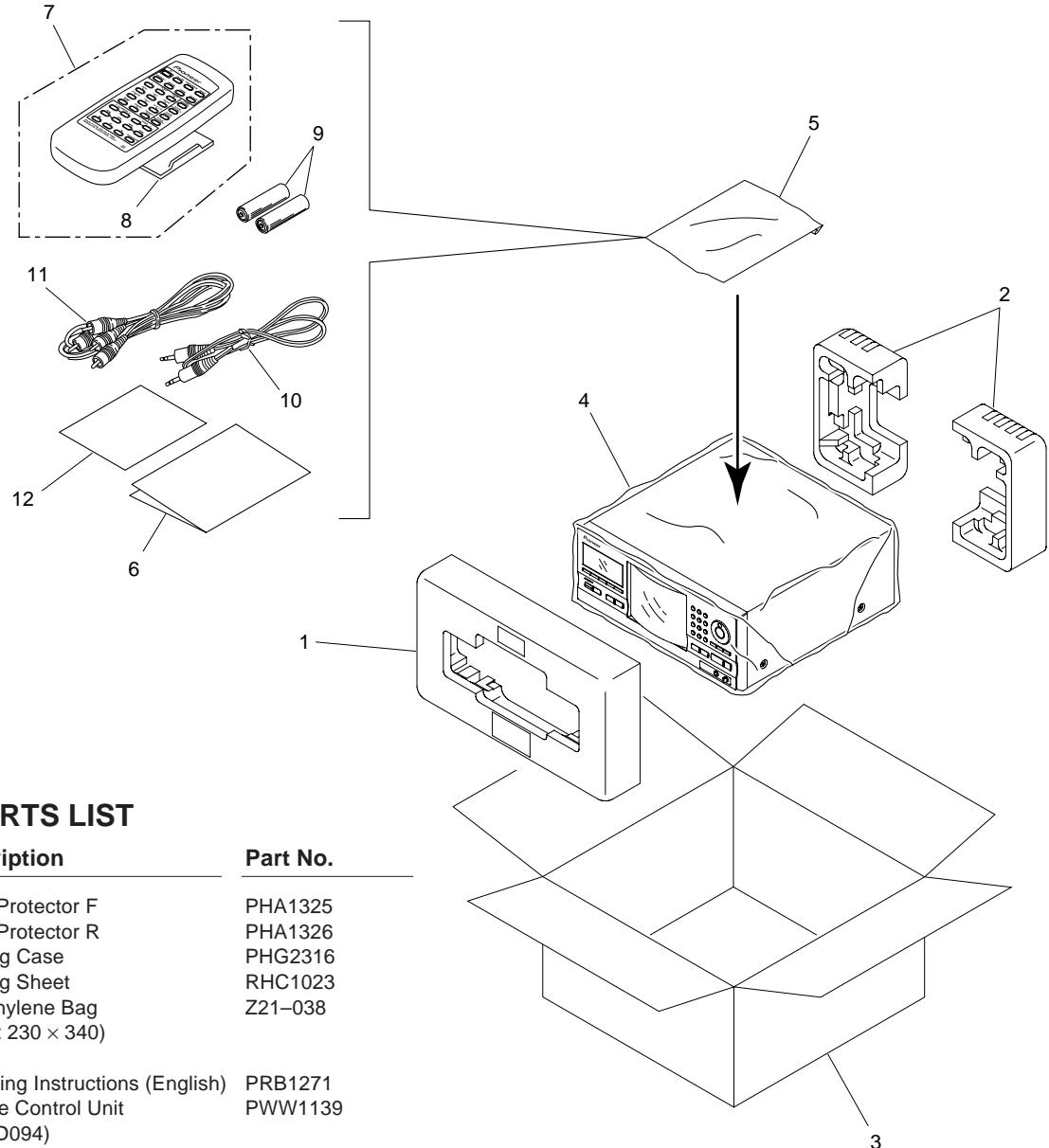


2. EXPLODED VIEWS AND PARTS LIST

NOTES :

- Parts marked by “ NSP ” are generally unavailable because they are not in our Master Spare Parts List.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screw adjacent to  mark on the product are used for disassembly.

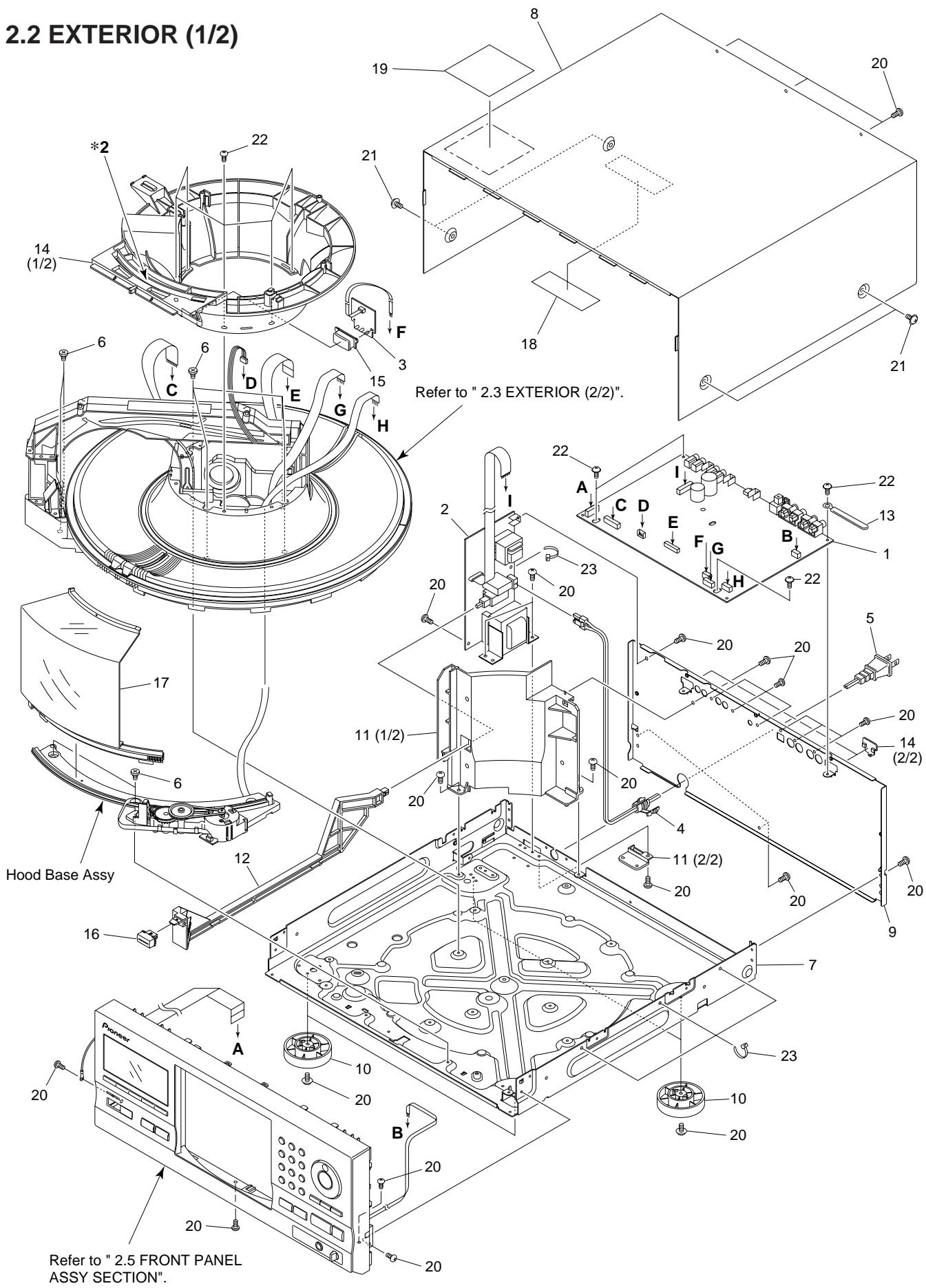
2.1 PACKING

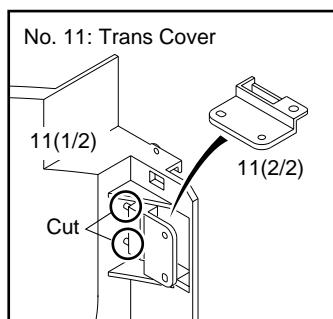
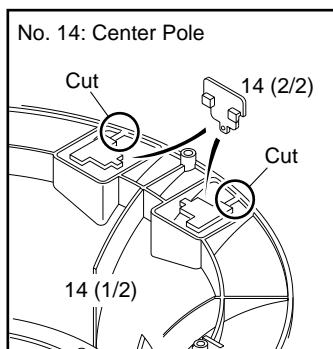


PACKING PARTS LIST

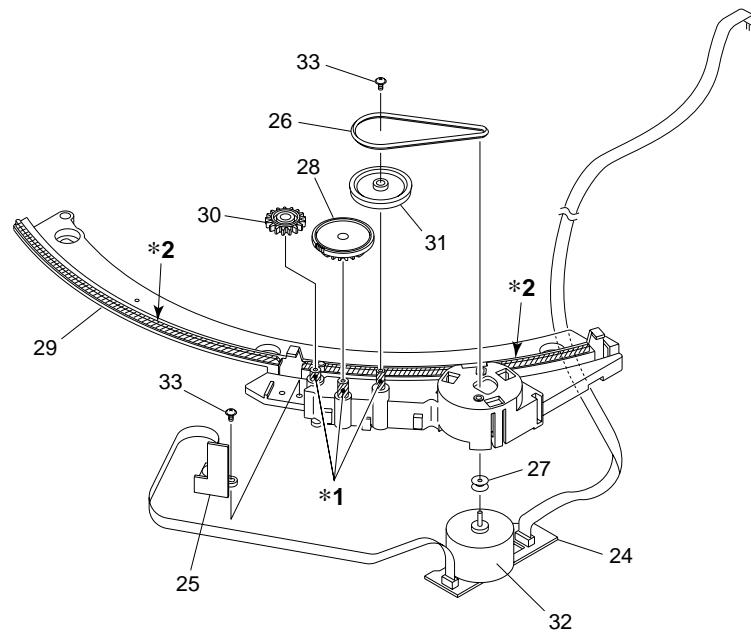
Mark	No.	Description	Part No.
	1	Styrol Protector F	PHA1325
	2	Styrol Protector R	PHA1326
	3	Packing Case	PHG2316
	4	Packing Sheet	RHC1023
	5	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
	6	Operating Instructions (English)	PRB1271
	7	Remote Control Unit (CD-PD094)	PWW1139
NSP	8	Battery Cover	AZA7204
	9	Dry Cell Batteries (R6P, AA)	VEM-013
	10	Control Cable (L=1 m)	PDE1247
	11	Audio Cable (L=1 m)	PDE1248
NSP	12	Warranty Card	ARY7023

2.2 EXTERIOR (1/2)





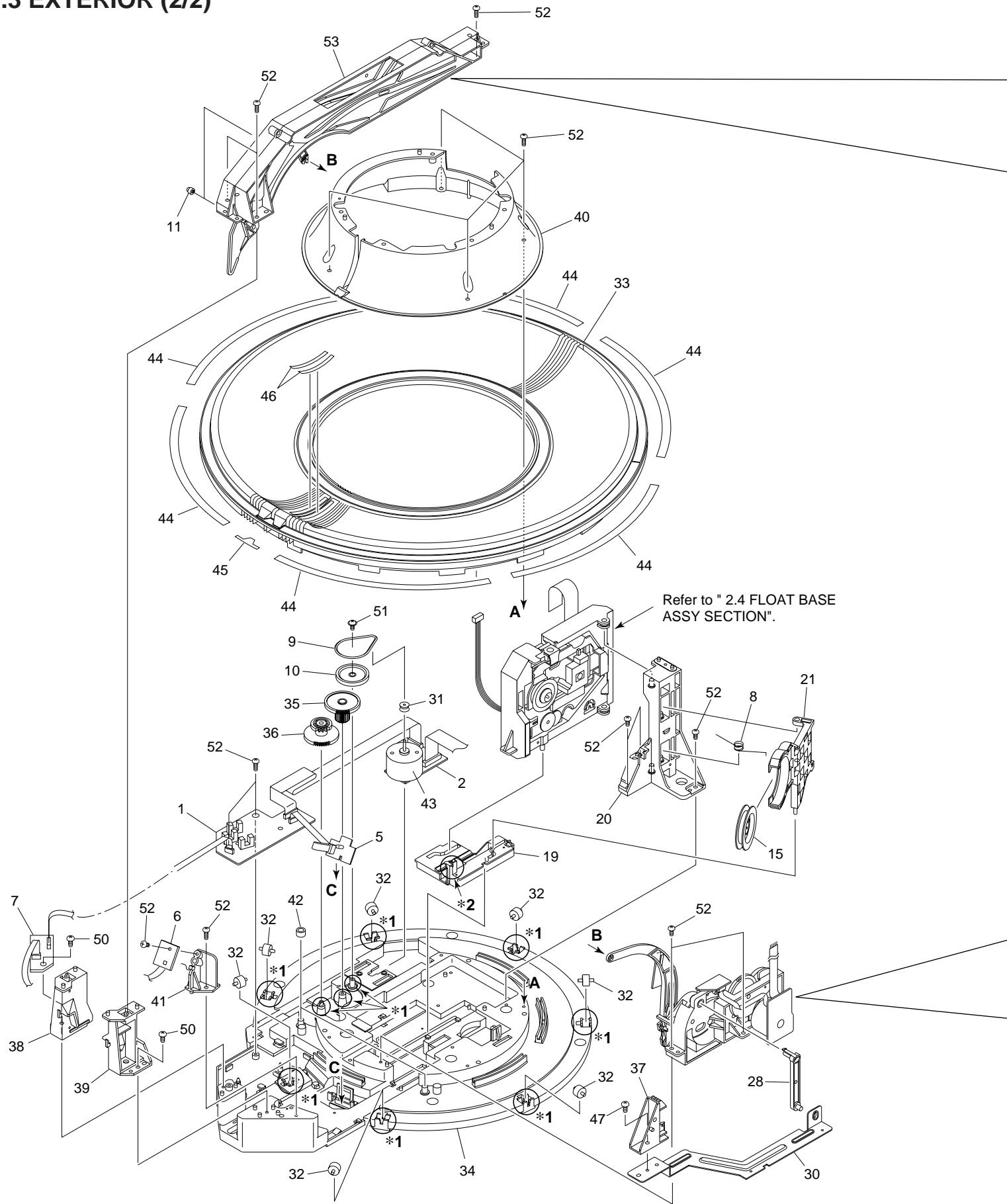
■ Hood Base Assy Section

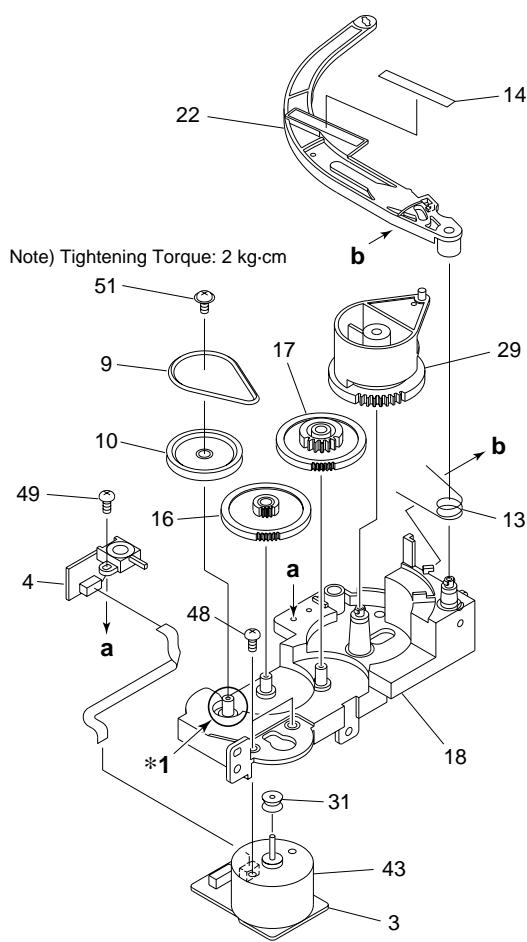
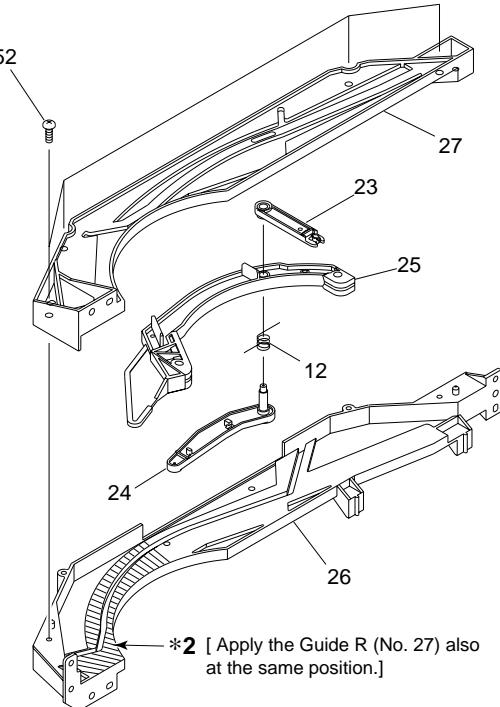


EXTERIOR (1/2) PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP △ △	1	MAIN BOARD ASSY	PWZ3822	NSP NSP	24	DOOR MOTOR BOARD ASSY	PWZ3863
	2	POWER BOARD ASSY	PWZ3852		25	DOOR SW BOARD ASSY	PWZ3865
	3	LED BOARD ASSY	PWZ3867		26	Belt	PEB1300
	4	Strain Relief	CM-22C		27	Motor Pulley	PNW1634
	5	AC Power Cord	VDG1057		28	Gear	PNW2641
NSP	6	Screw C	PBA1106		29	Hood Base	PNW2791
	7	Under Base	PNA2421		30	Gear M1	PNW2800
	8	Bonnet Case	PYY1255		31	Gear Pulley	VNL1662
	9	Rear Base	PNA2424		32	Slider Motor	VXM1033
	10	Insulator	PNW2766		33	Screw	IPZ20P080FMC
	11	Trans Cover	PNW2802		*1	Froil 397 (for service)	GYA1001
	12	Joint	PNW2805		*2	Ha Narl PN955R (for service)	GEM1016
	13	Cord Clamper	RNH-184				
	14	Center Pole	PNW2792				
	15	CR Lens	PNW2816				
	16	POWER Button	PAC1884				
	17	Hood	PNW2793				
	18	65 Label	ORW1069				
	19	Caution Label	PRW1517				
	20	Screw	BBZ30P080FZK				
	21	Screw	FBT40P080FZK				
	22	Screw	IBZ30P080FMC				
	23	Binder	ZCA-SKB90BK				
	*2	Ha Narl PN955R (for service)	GEM1016				

2.3 EXTERIOR (2/2)

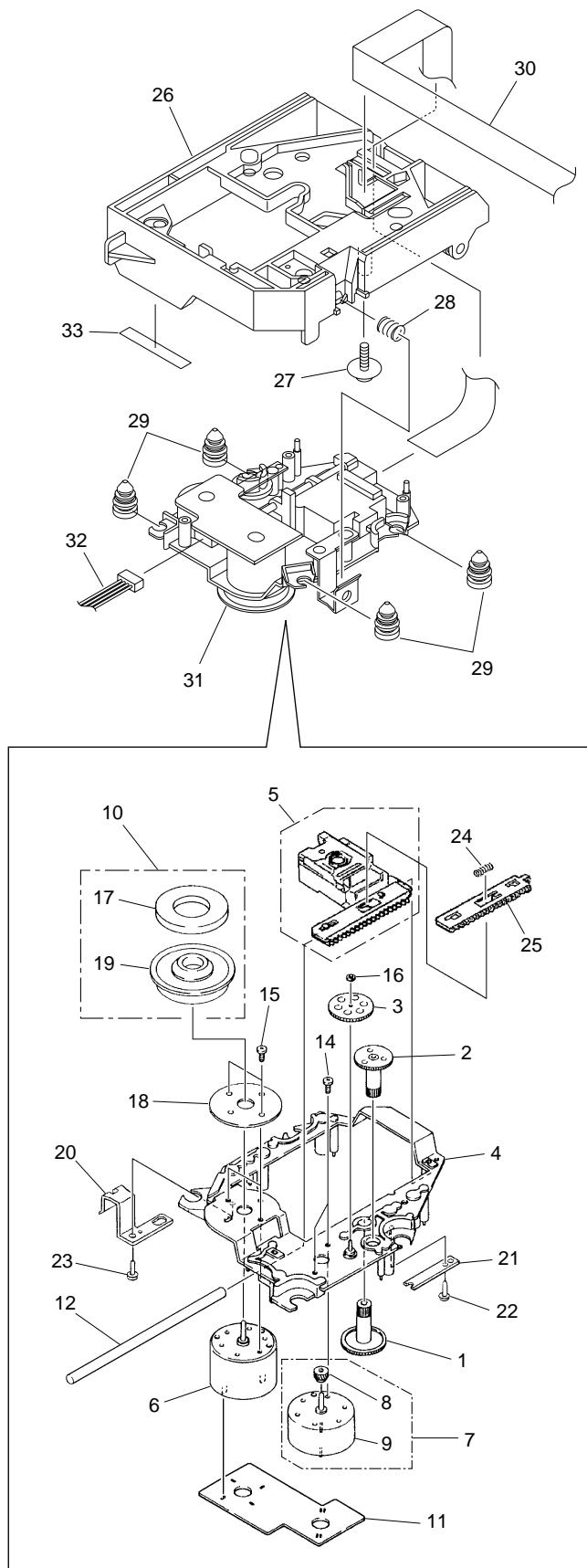




EXTERIOR (2/2) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	SENSOR BOARD ASSY	PWZ3781
NSP	2	SELECT BOARD ASSY	PWZ3785
NSP	3	LOADING BOARD ASSY	PWZ3788
NSP	4	LOADING SW BOARD ASSY	PWZ3790
NSP	5	RADIATE BOARD ASSY	PWZ3791
NSP	6	RECEIVE BOARD ASSY	PWZ3792
	7	VOLUME BOARD ASSY	PWZ3866
	8	Clamp Spring	ABH7107
	9	Loading Belt	AEB7029
	10	Gear Pulley B	ANW7062
	11	Roller B	ANW7075
	12	Arm Spring	PBH1225
	13	D Arm Spring	PBH1226
	14	Sheet	PED1028
	15	Clamper	PNW2743
	16	Gear 1	PNW2819
	17	Gear 2	PNW2820
	18	Gear Holder	PNW2822
	19	Slider Cam	PNW2823
	20	Clamp Support	PNW2826
	21	Clamp Holder	PNW2827
	22	Drive Arm	PNW2829
	23	Link	PNW2830
NSP	24	L Slider	PNW2831
NSP	25	L Arm	PNW2832
	26	Guide L	PNW2833
	27	Guide R	PNW2834
	28	Link L	PNW2844
	29	Drive Cam	PNW2873
	30	Lock Plate	PNA2438
	31	Motor Pulley	PNW1634
	32	Roller	PNW2647
	33	Disc Rack	PNW2790
	34	Rack Base	PNW2835
	35	ST Gear 0.6	PNW2836
	36	ST Gear 1.0	PNW2837
	37	Disc Divider	PNW2838
	38	Guide Support L	PNW2839
	39	Guide Support R	PNW2840
	40	Disc Guard	PNW2841
	41	Sensor Stay	PNW2842
	42	Guide Roller	PNW2843
	43	Slider Motor	VXM1033
	44	Rack Label	PAM1770
	45	S Label	PAM1771
	46	+1 Label	PRW1507
	47	Screw	BBZ30P080FZK
	48	Screw	BMZ26P040FZK
	49	Screw	BPZ26P060FMC
	50	Screw	BPZ30P100FCU
	51	Screw	IPZ20P080FMC
	52	Screw	PPZ30P080FMC
	53	Arm Assy	PXA1615
	*1	Froil 397 (for service)	GYA1001
	*2	Ha Narl PN955R (for service)	GEM1016

2.4 FLOAT BASE ASSY SECTION

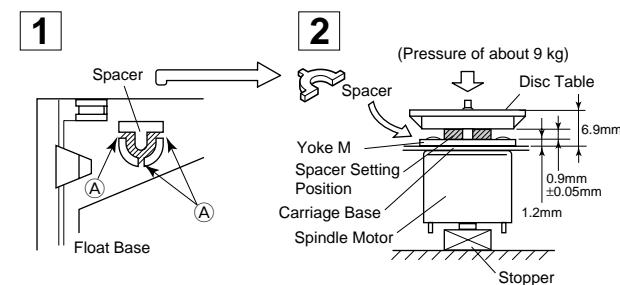


FLOAT BASE ASSY SECTION PARTS LIST

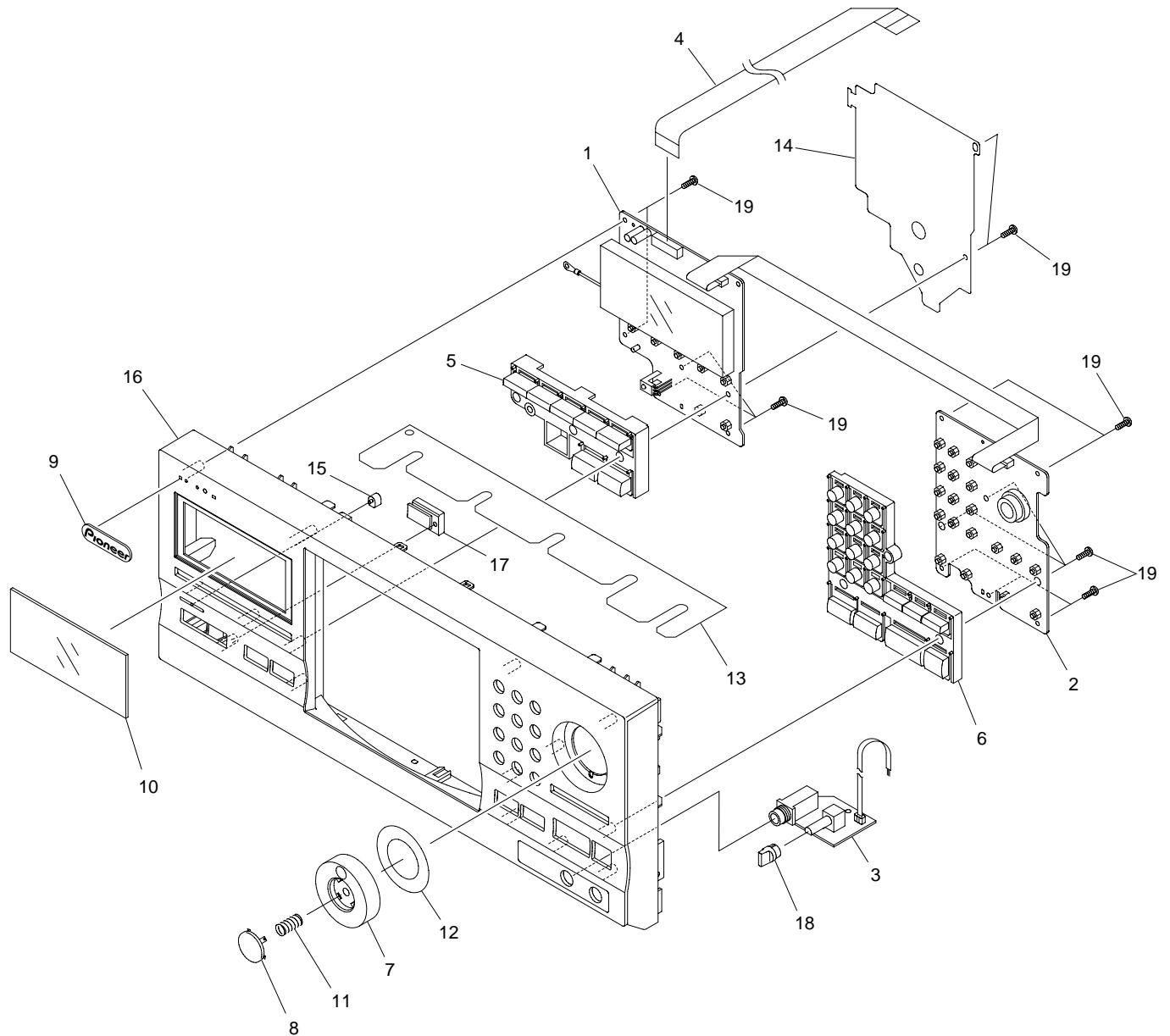
Mark	No.	Description	Part No.
	1	Gear 1	PNW2052
	2	Gear 2	PNW2053
	3	Gear 3	PNW2054
	4	Carriage Base	PNW2699
	5	Pickup Assy - S	PEA1335
	6	D.C. Motor Assy (SPINDLE)	PEA1235
	7	Carriage DC Motor Assy	PEA1246
	8	Pinion Gear	PNW2055
	9	Carriage DC Motor/0.3W	PXM1027
	10	Disc Table Assy	PEA1314
	11	Mechanism Board Assy	PWX1192
	12	Guide Bar	PLA1094
	13	
	14	Screw	JFZ17P025FZK
	15	Screw	JFZ20P040FMC
NSP	16	Washer	WT12D032D025
NSP	17	Clamp Magnet	PMF1014
	18	Yoke M	PNB1312
	19	Disc Table	PNW2410
	20	Float Angle	ANB7020
	21	Gear Stopper	PNB1303
	22	Screw	BPZ20P060FMC
	23	Screw	BPZ26P100FMC
	24	PU Rack Spring	ABH7077
	25	Rack Holder	PNW2056
	26	Float Base	PNW2828
	27	Screw	ABA7009
	28	Float Spring	ABH7049
	29	Float Rubber	AEB7028
	30	16P F.F-C/30V	PDD1185
NSP	31	Servo Mechanism Assy GM	PXA1591
	32	Connector Assy (4P)	RDE1043
	33	Sheet	PED1028

● How to Install the Disc Table

- 1 Use nipper or other tool to cut the three sections marked A in figure 1. Then remove the spacer
- 2 While supporting the spindle motor shaft with the stopper, put spacer on top of the yoke M, and stick the disc table on top (takes about 9kg pressure). Detach the spacer.



2.5 FRONT PANEL ASSY SECTION

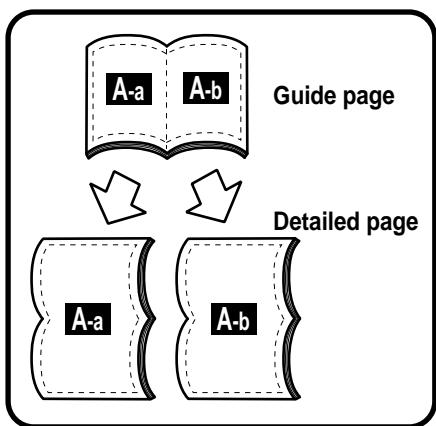
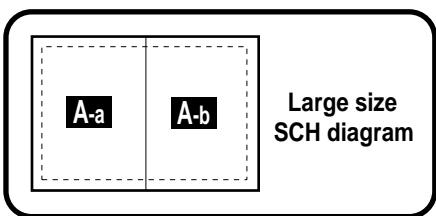


FRONT PANEL ASSY SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	DISPLAY BOARD ASSY	PWZ3839	NSP	11	Enter Spring	PBH1228
	2	FUNCTION BOARD ASY	PWZ3847		12	Jog Sheet	PEC1042
	3	HEADPHONE BOARD ASSY	PWZ3860		13	FC Cover	PNM1323
	4	16P F.F.C/30V	PDD1189		14	PCB Cover	PNM1324
	5	MODE Button	PAC1880		15	LED Lens	PNW2019
NSP	6	PLAY Button	PAC1881	NSP	16	Operation Panel	PNW2794
	7	Jog Dial	PAC1882		17	Sensor Lens	PNW2804
	8	ENTER Button	PAC1883		18	Rotary Knob	RAC1903
	9	Name Plate	PAM1776		19	Screw	PPZ30P100FMC
	10	Display Window	PAM1782				

3. SCHEMATIC DIAGRAM

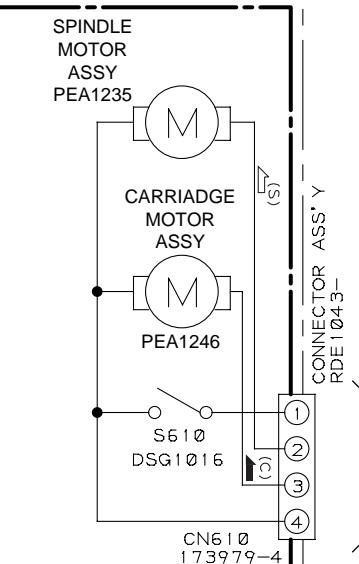
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



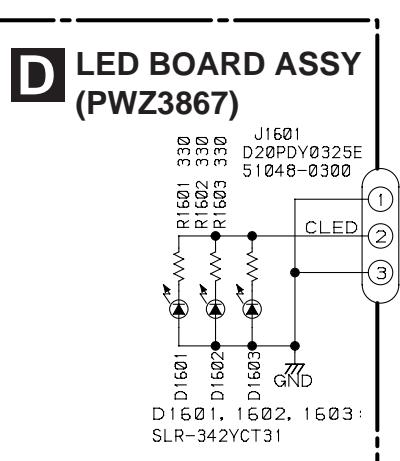
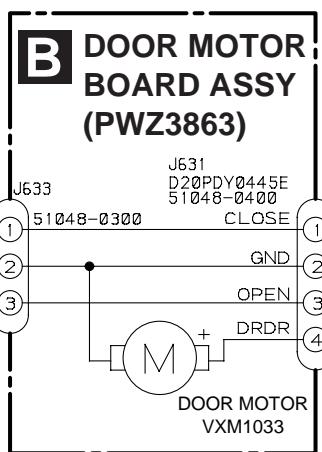
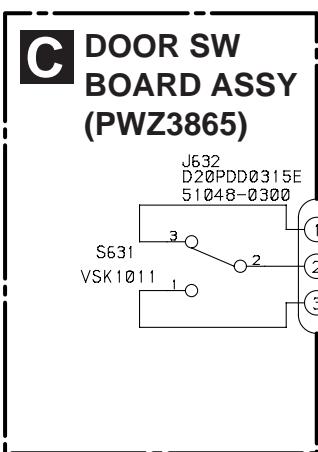
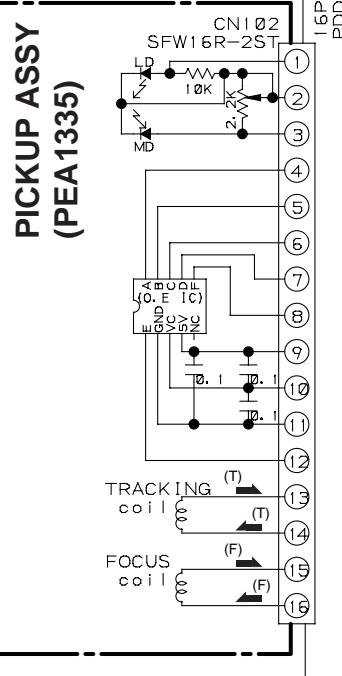
3.1 MECHANISM BOARD, DOOR MOTOR BOARD, DOOR SW BOARD, LED BOARD and PICKUP ASSEMBLIES

SERVO MECHANISM ASSY (PXA1591)

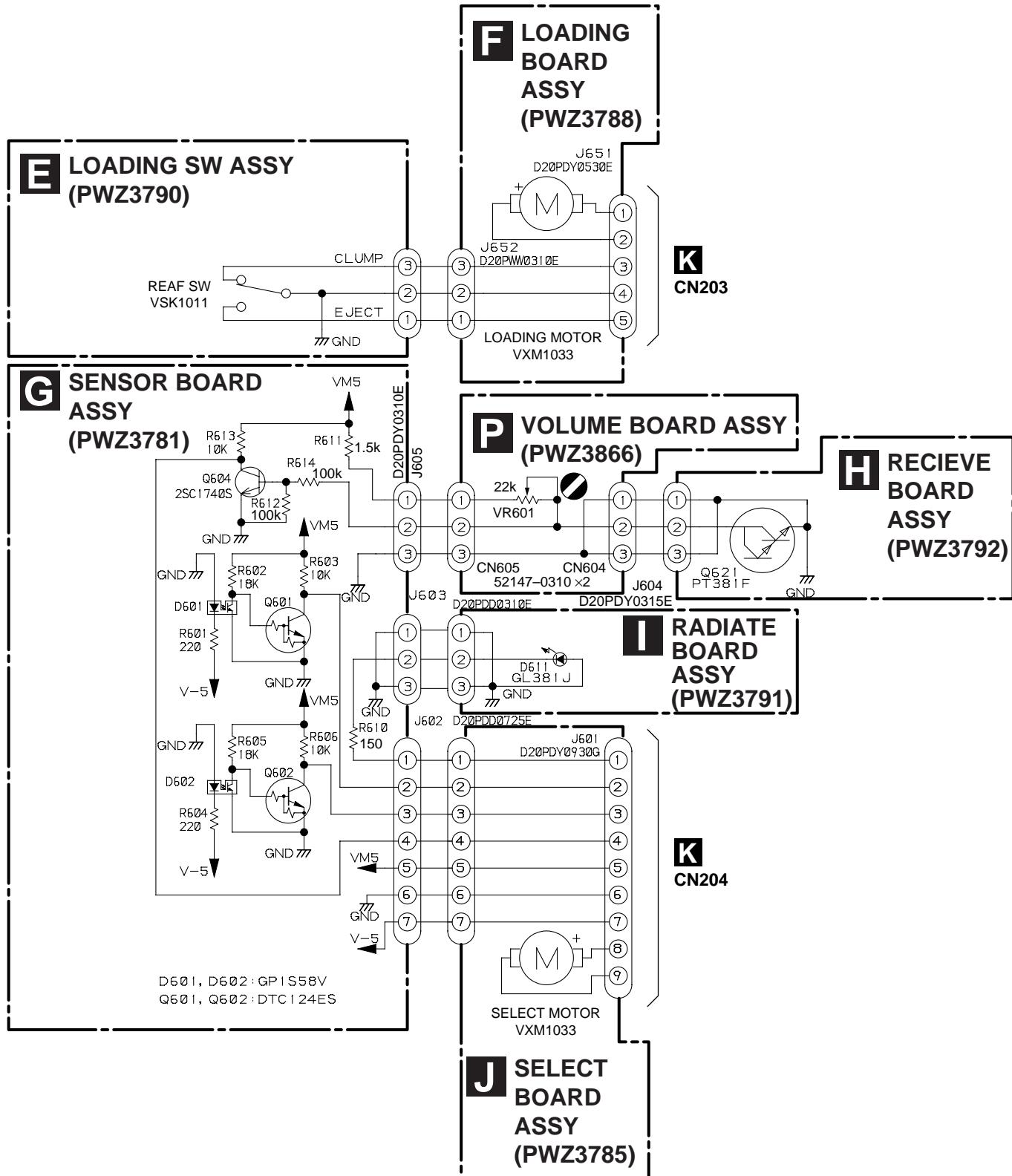
SIGNAL ROUTE
 (F) : FOCUS SERVO LOOP
 (T) : TRACKING SERVO LOOP
 (C) : CARRIAGE SERVO LOOP
 (S) : SPINDLE DRIVE



A MECHANISM BOARD ASSY (PWX1192)



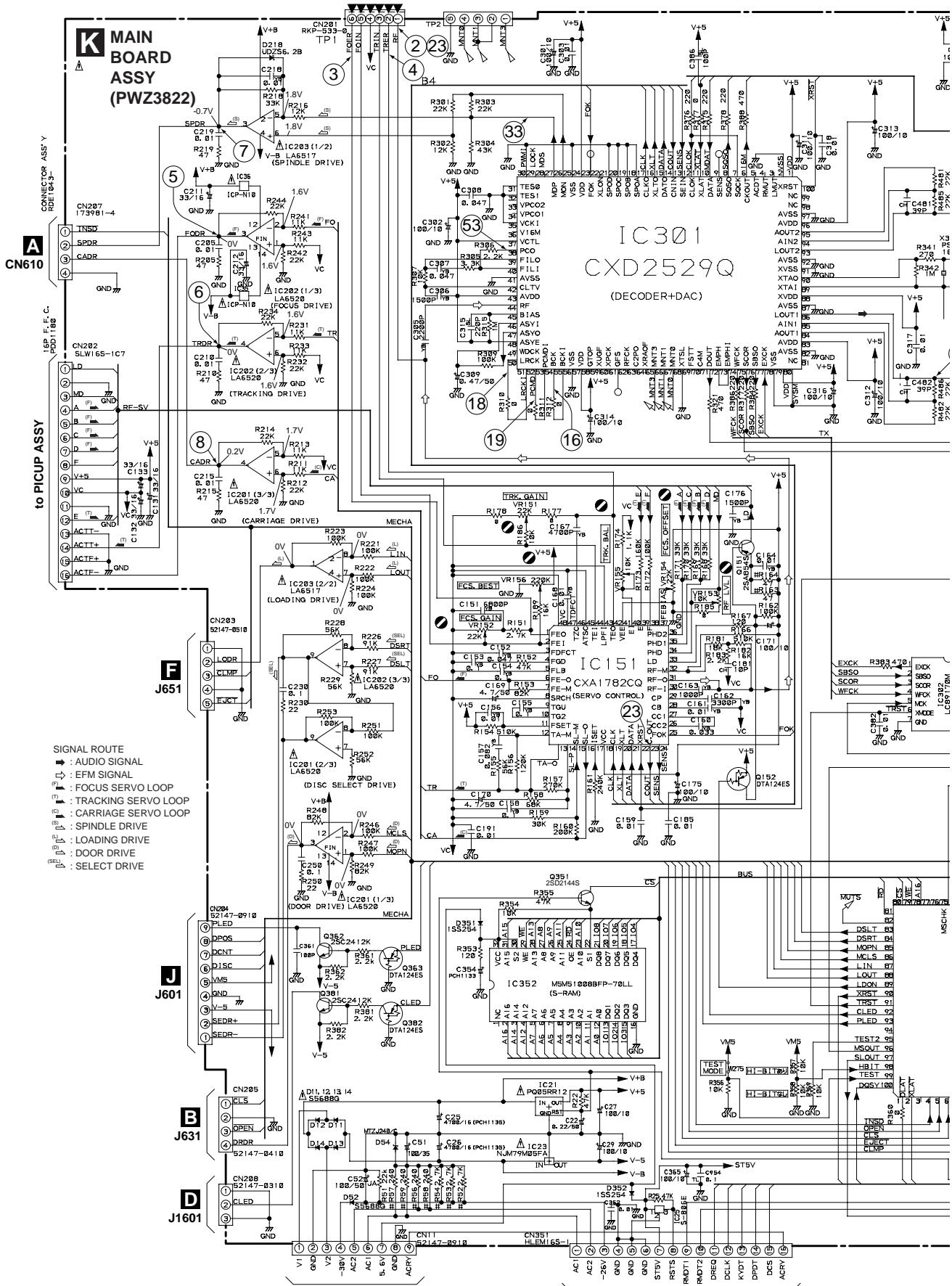
3.2 LOADING SW, LOADING BOARD, SENSOR BOARD, RECEIVE BOARD, RADIATE BOARD and SELECT BOARD ASSEMBLIES



K-a

3.3 MAIN BOARD ASSY

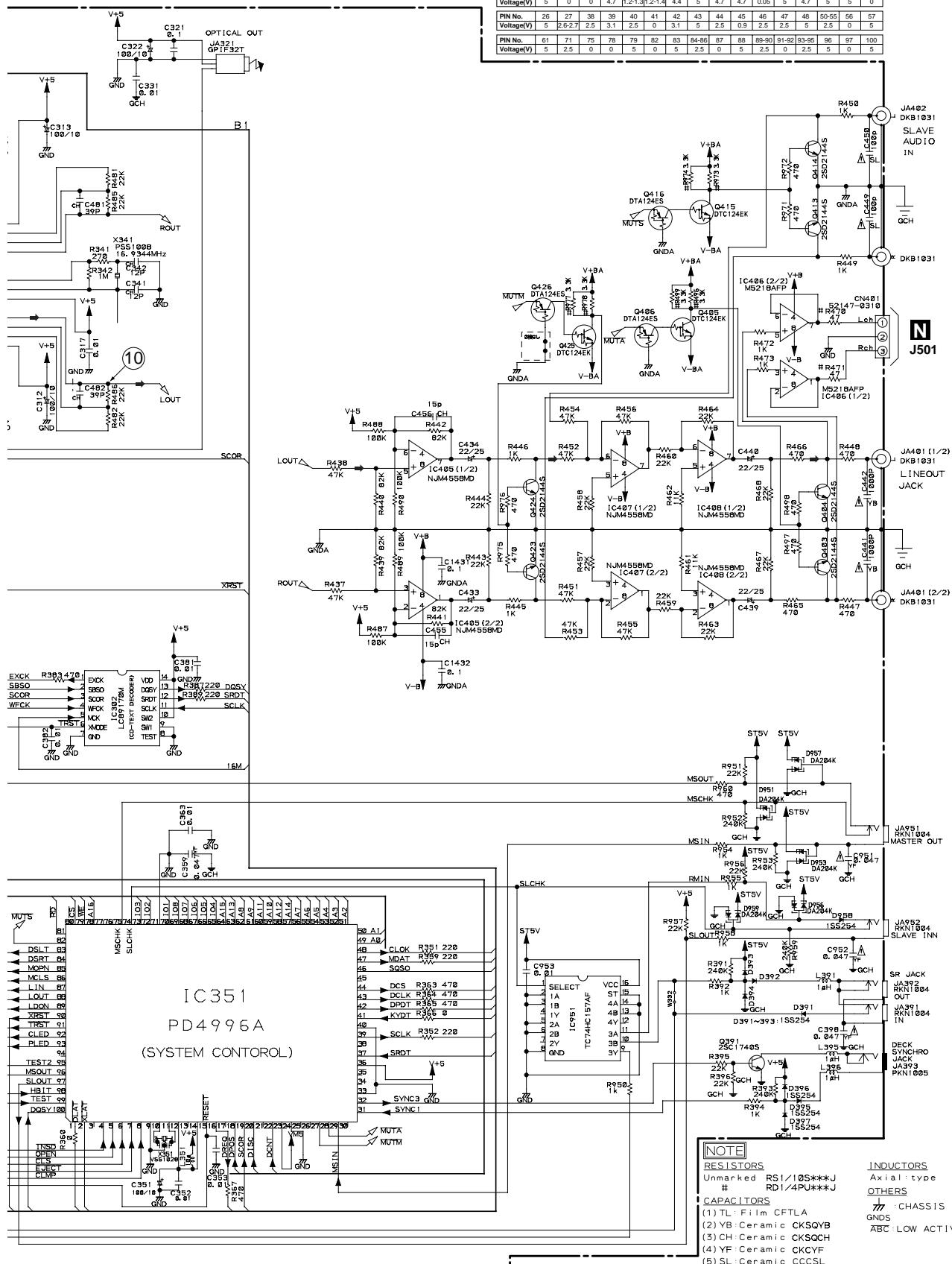
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE NO. ICP-N10, MFD BY
ROHM CO., FOR IC35 AND IC36.



K-b

PIN No.	1	2	3-4	7	8	9	10	11	12	13	14	16	17	18	23	24	25
Voltage(V)	5	0	0	4.7	1.2-1.3	1.2-1.4	4.4	5	4.7	4.7	0.05	5	4.7	5	5	0	
PIN No.	26	27	38	39	40	41	42	43	44	45	46	47	48	50-55	56	57	0
Voltage(V)	5	2.6-2.7	2.5	3.1	2.5	0	3.1	5	2.5	0.9	2.5	2.5	5	2.5	5	0	

PIN No.	61	71	75	78	79	82	83	84-86	87	88	89-90	91-92	93-95	96	97	100
Voltage(V)	5	2.5	0	0	5	0	5	2.5	0	5	2.5	0	2.5	5	0	5

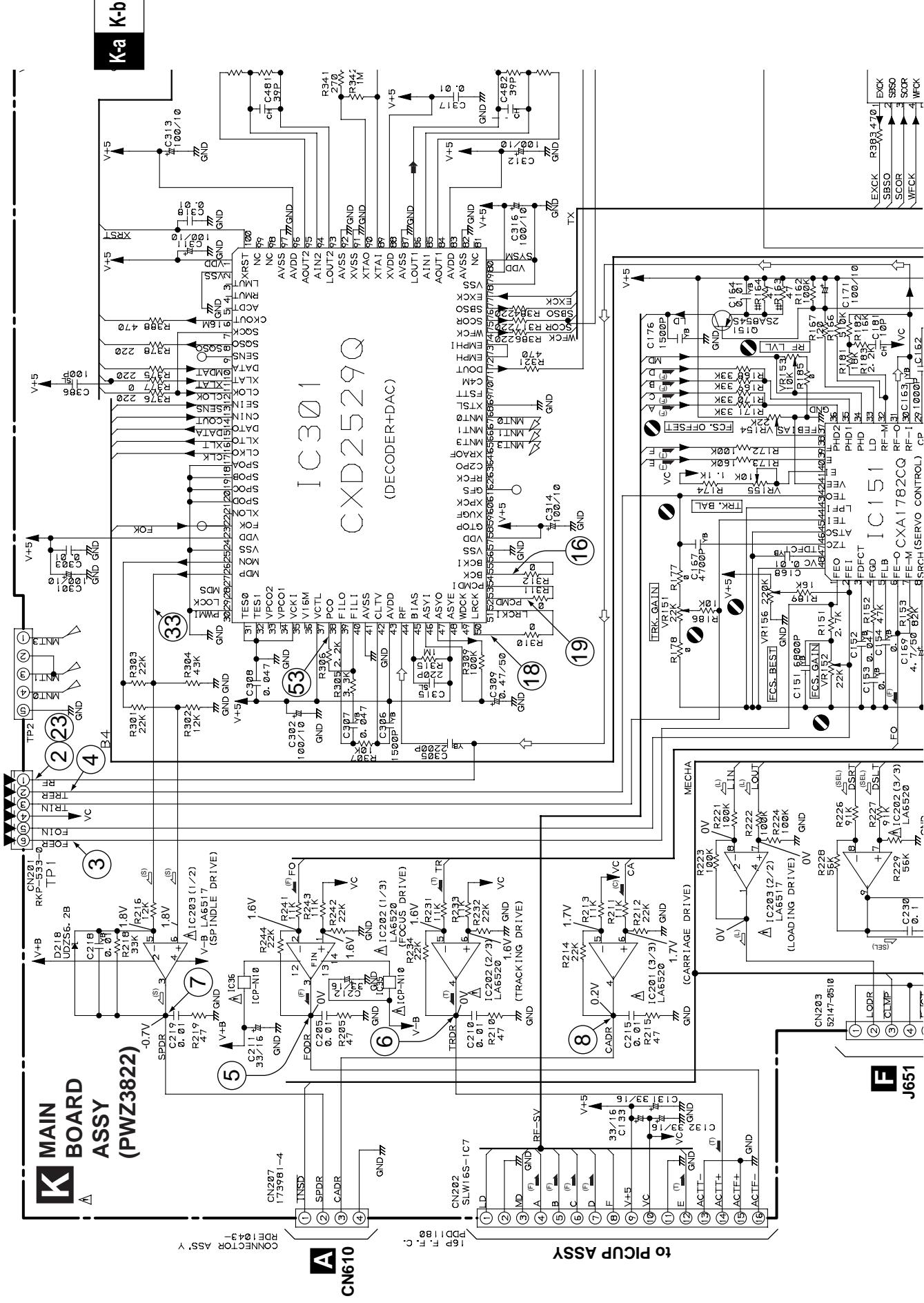


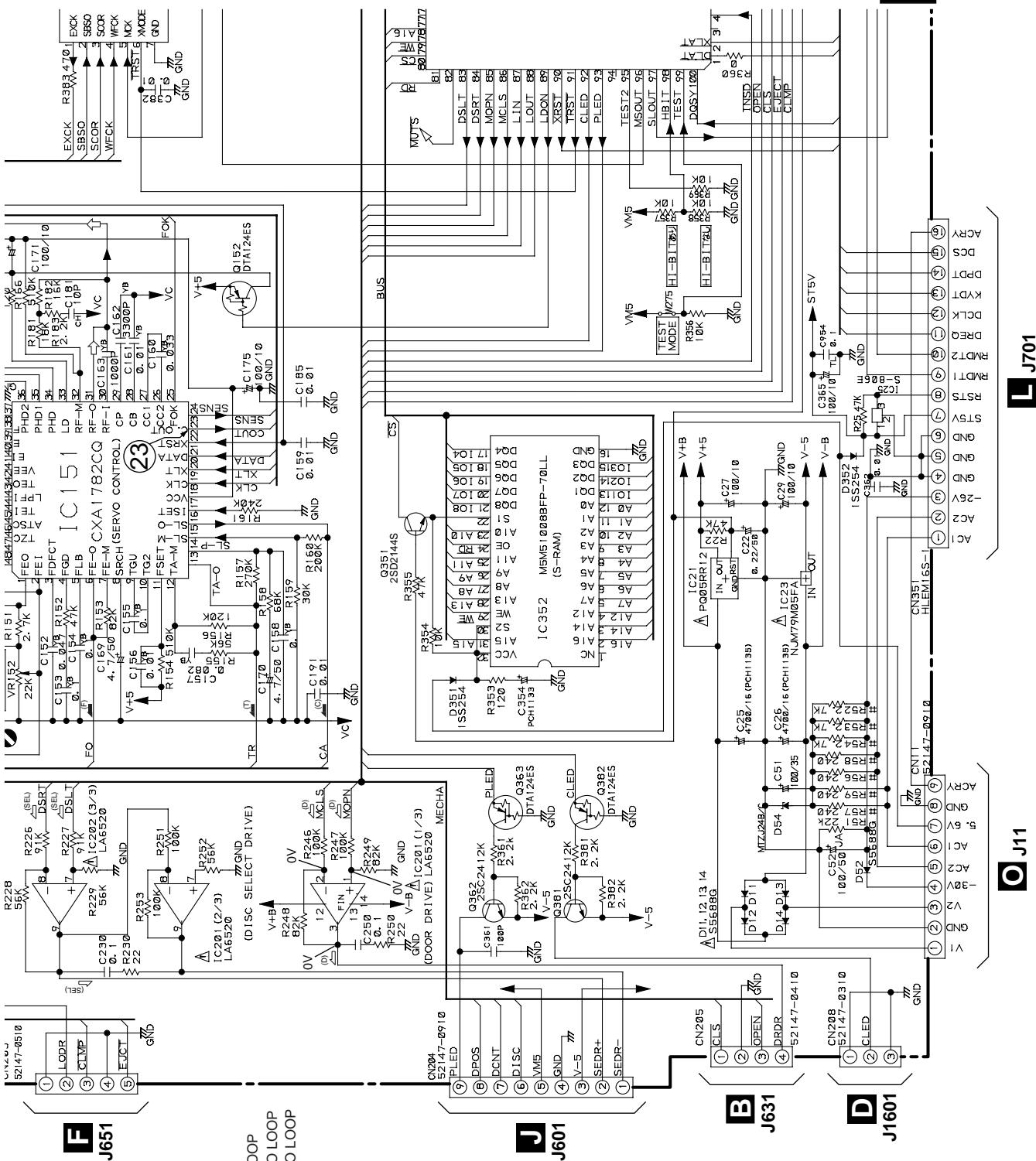
NOTE
RESISTORS
 Unmarked RS1/10S***J # R1/4PU***J
CAPACITORS
 (1) TL : Film CFTLA
 (2) YB : Ceramic CKSQYB
 (3) CH : Ceramic CKSOC
 (4) YF : Ceramic CKCYF
 (5) SL : Ceramic CCCSL
 (6) Unmarked type CKSQYF
 (7) Unmarked CEAT

INDUCTORS
 Axial : type LAU
OTHERS
 GND : CHASSIS GROUND
 ABC : LOW ACTIVE SIGNAL

**CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE NO. ICP-N10, MFD BY
ROHM CO., FOR IC35 AND IC36.**

MAIN BOARD ASSY (PWZ38A)

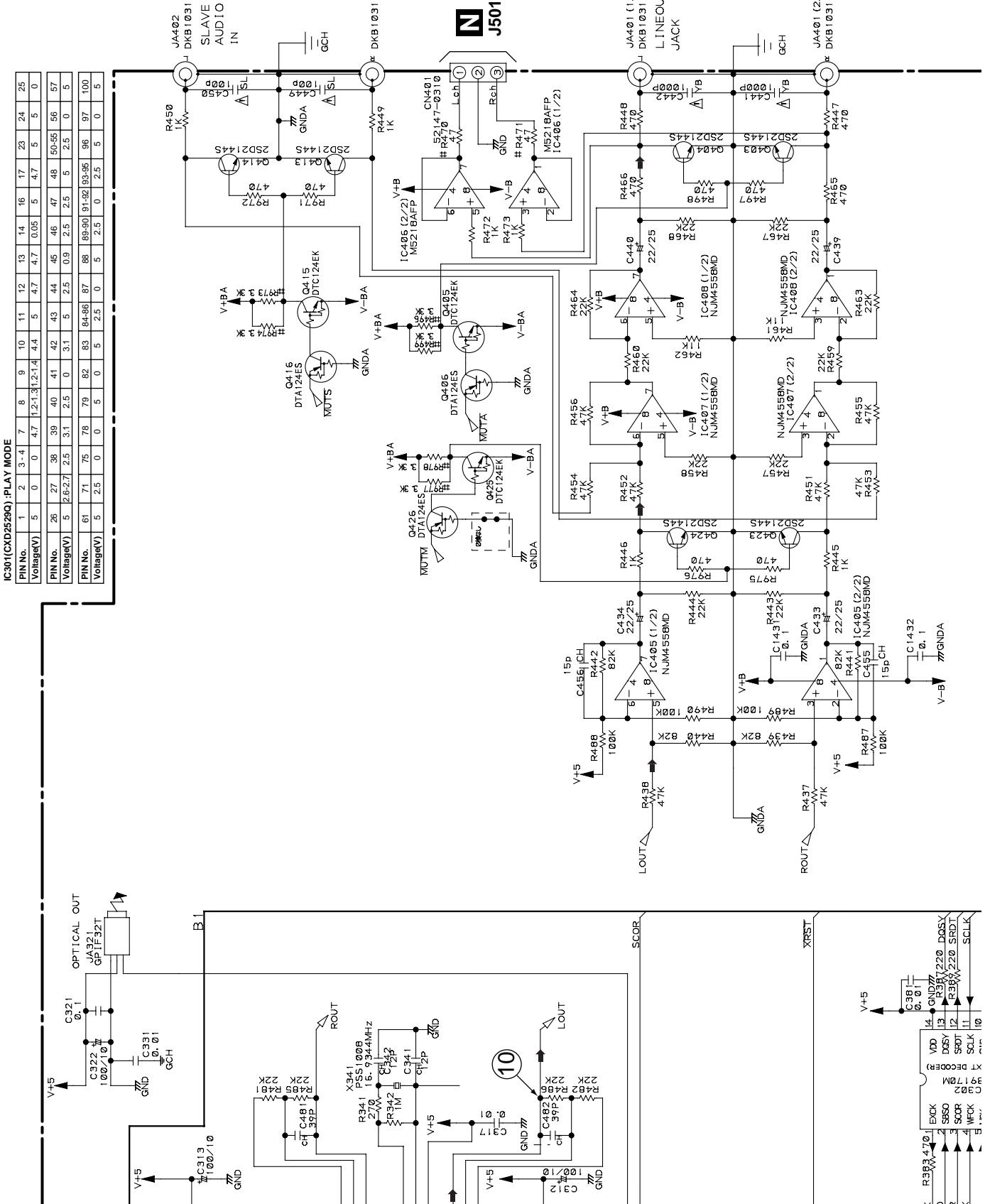


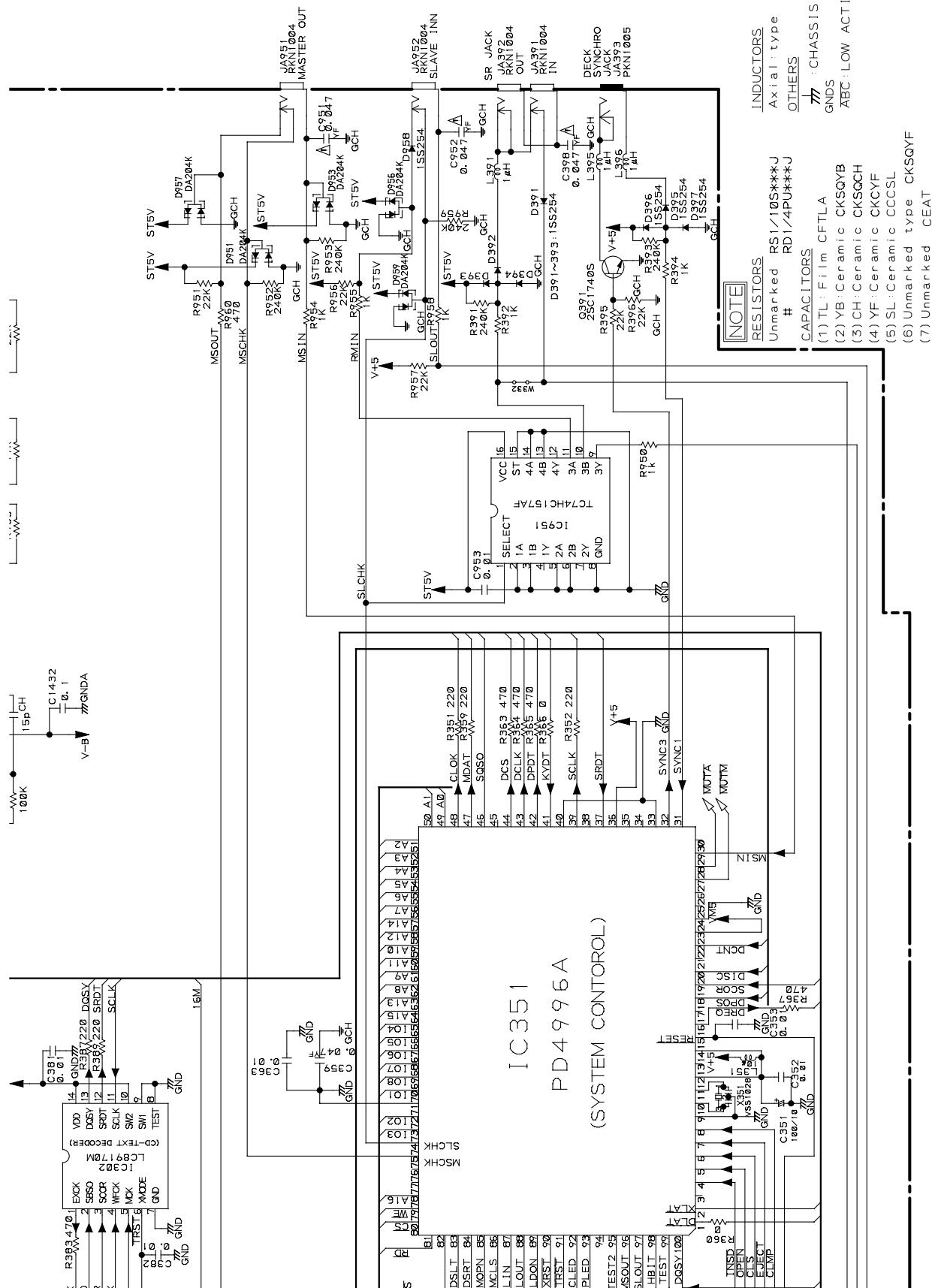


SIGNAL.ROUTE : AUDIO SIGNAL
 : EFM SIGNAL
 : FOCUS SERVO
 : TRACKING SERVO
 : CARRIAGE SERVO
 : SPINDLE DRIVE
 : LOADING DRIVE
 : DOOR DRIVE
 : SELECT DRIVE

K-a 2/2

K-a K-b





K-b 2/2

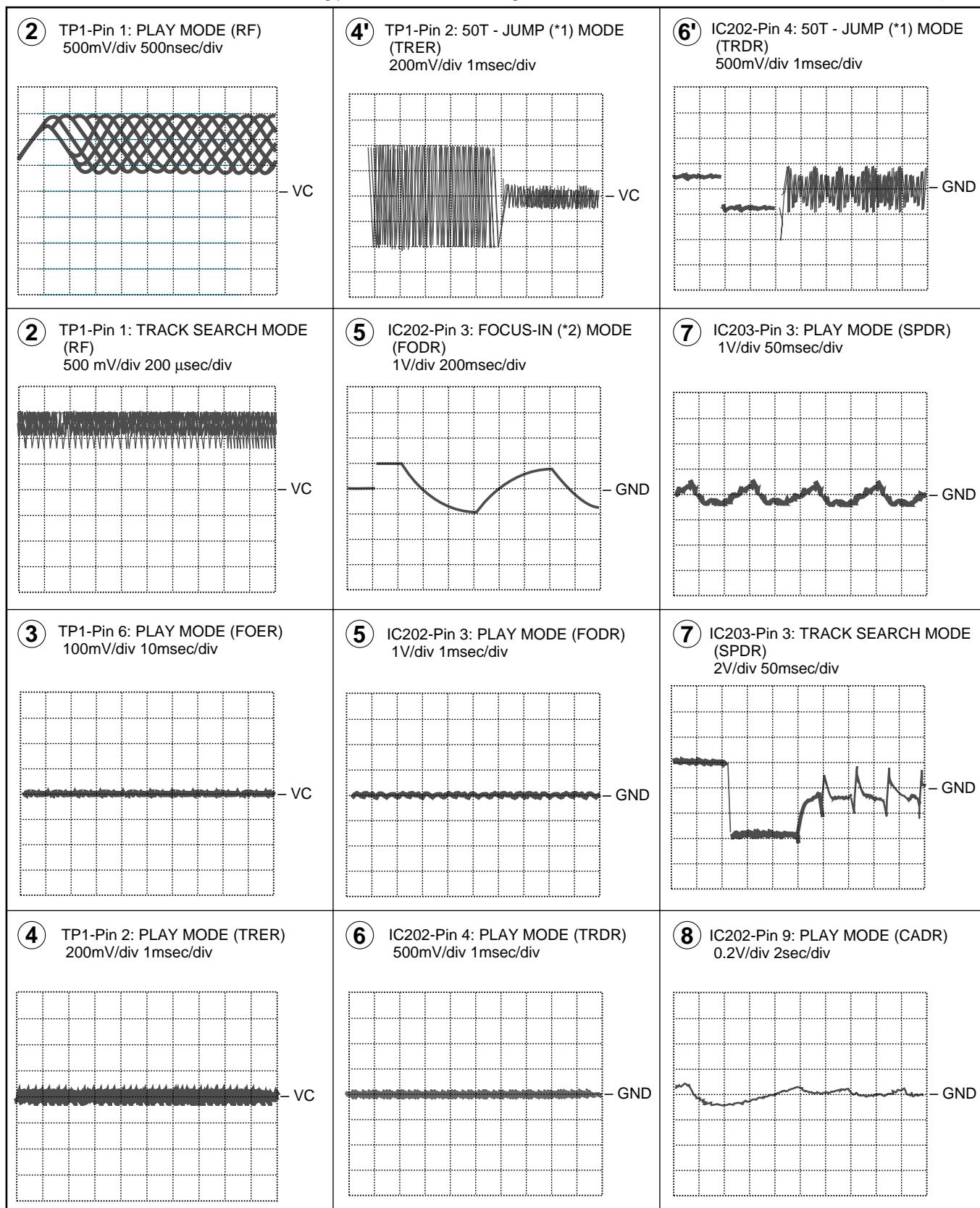
17

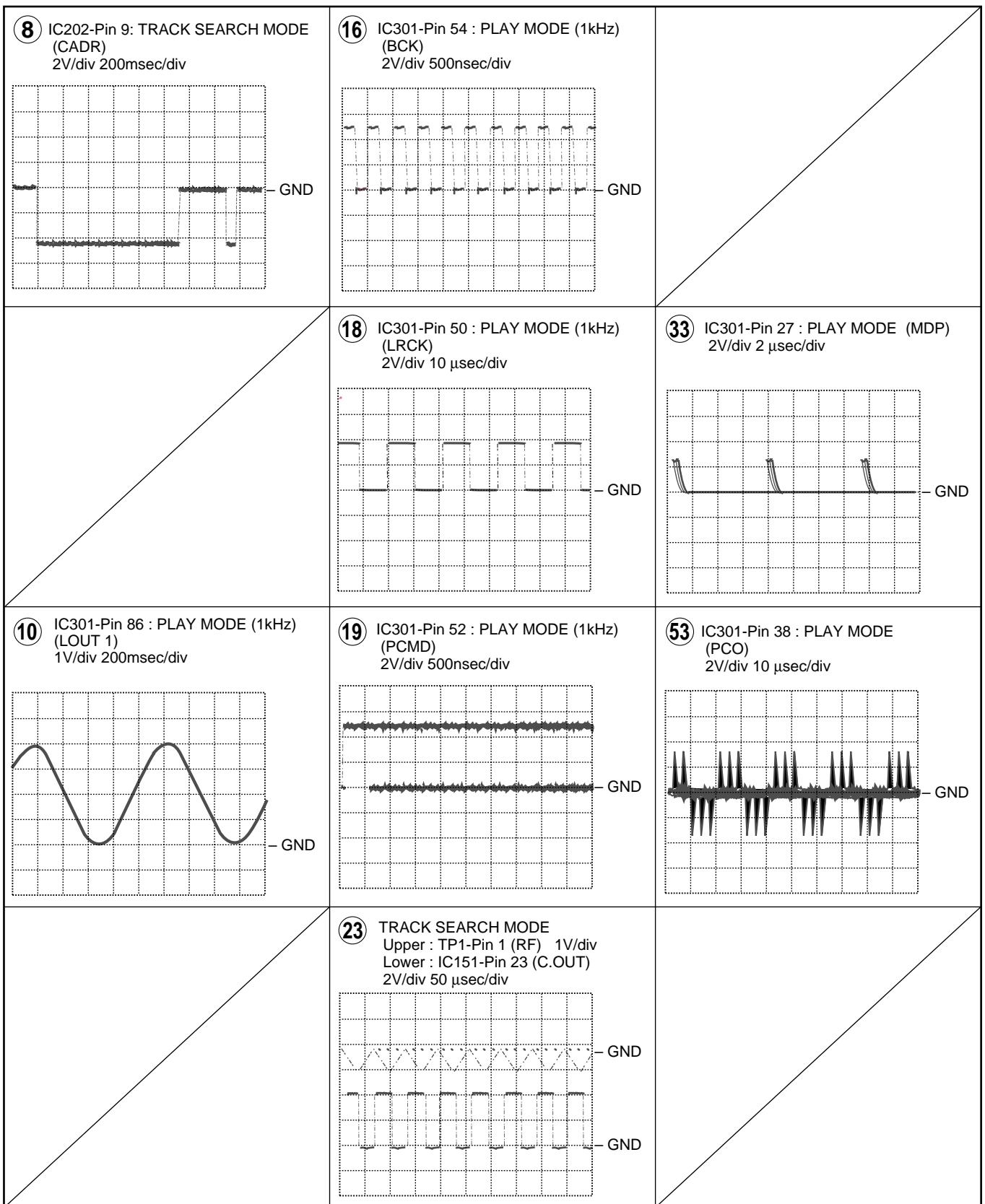
Waveforms

Note: The encircled numbers denote measuring point in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.

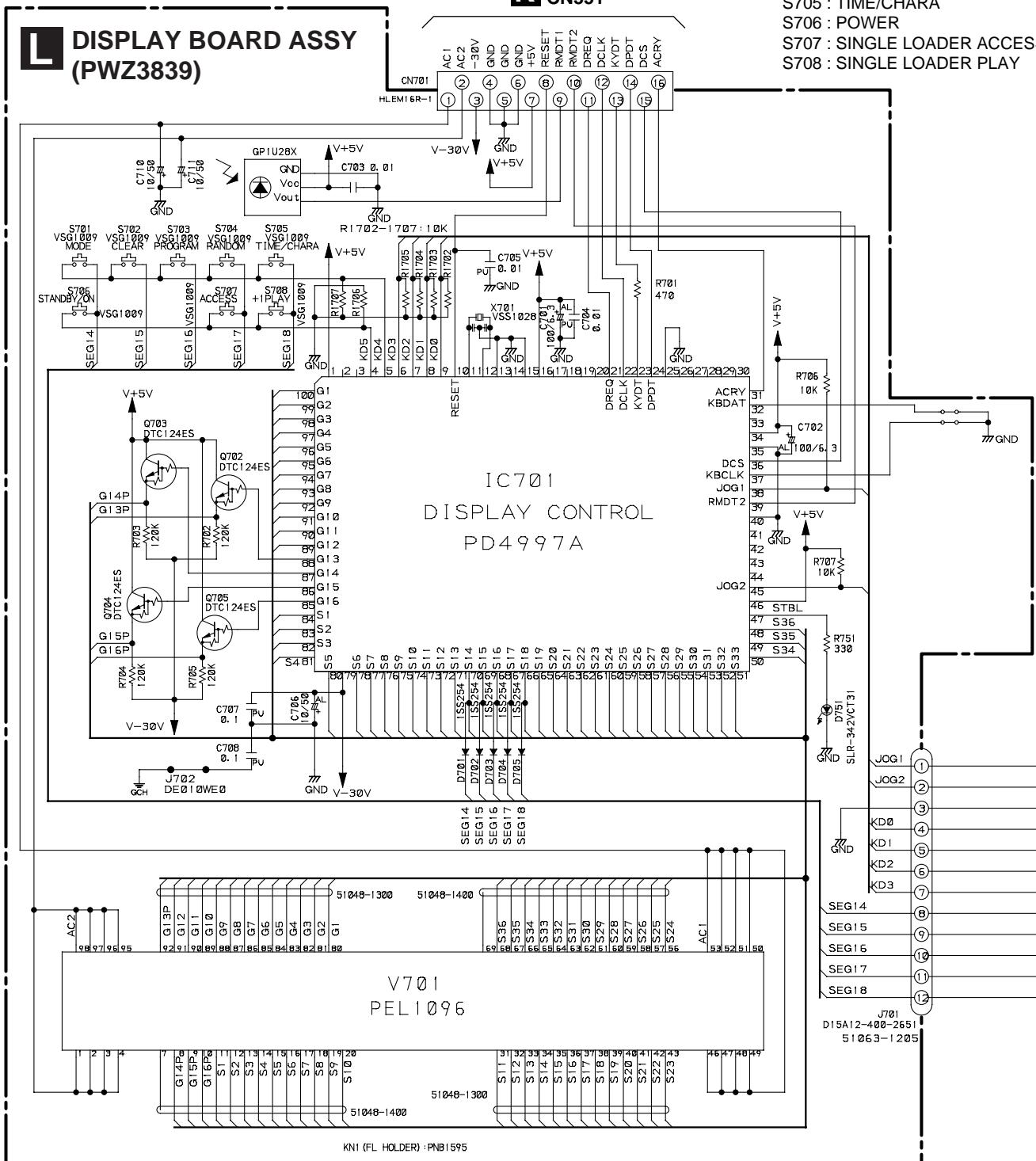
*2 FOCUS-IN: Press the play key without loading a disc.

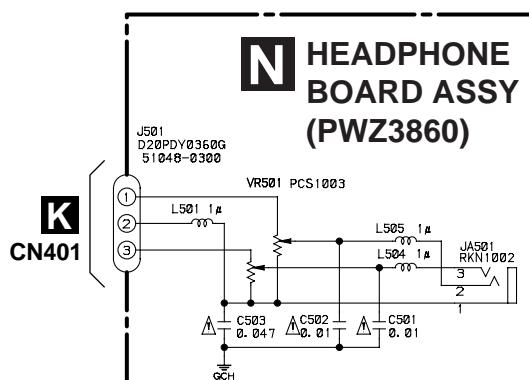
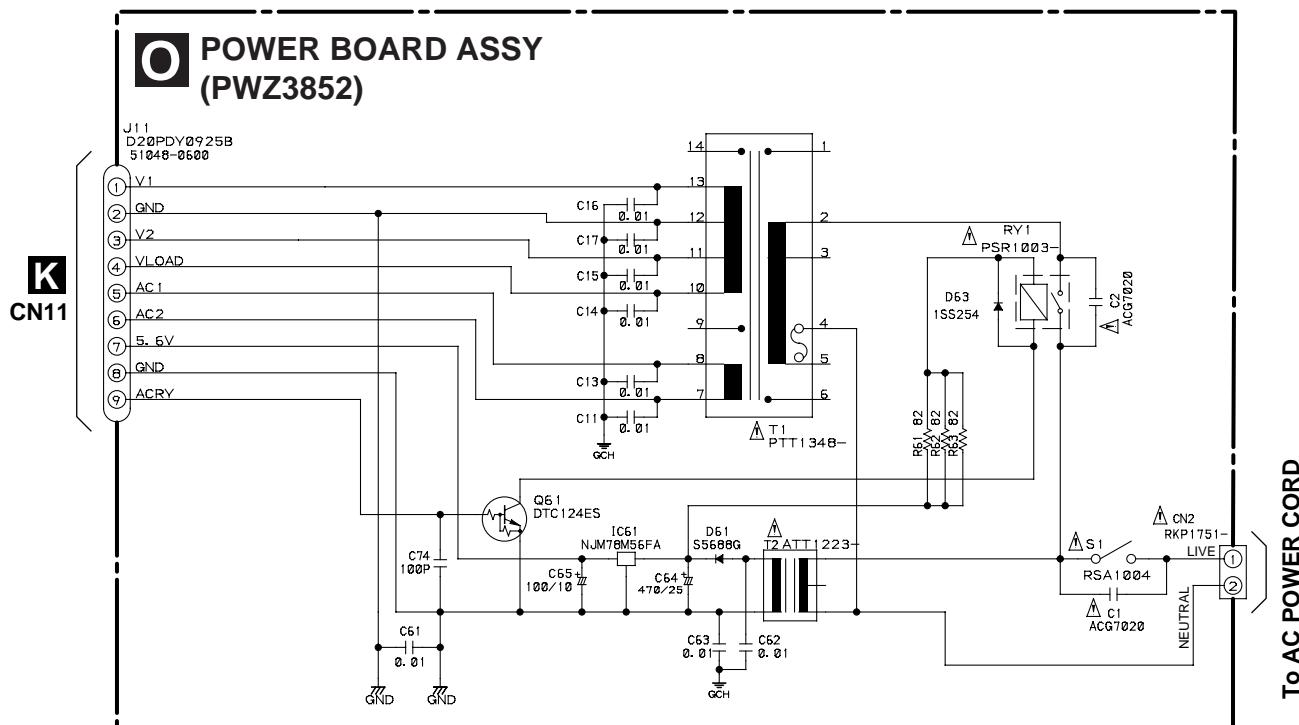




3.4 DISPLAY BOARD, FUNCTION BOARD, HEADPHONE BOARD and POWER BOARD ASSEMBLIES

DISPLAY BOARD ASSY
S701 : MODE
S702 : CLEAR
S703 : PROGRAM
S704 : RANDOM
S705 : TIME/CHARA
S706 : POWER
S707 : SINGLE LOADER ACCESS
S708 : SINGLE LOADER PLAY



**NOTE****RESISTORS**Unmarked RS1/10S***J
RD1/4PU***J**CAPACITORS**

- (1) TL : Film CFTLA
- (2) YB : Ceramic CKSQYB
- (3) CH : Ceramic CKSQCH
- (4) YF : Ceramic CKCYF
- (5) SL : Ceramic CCCSL
- (6) Unmarked type CKSQYF
- (7) Unmarked CEAT

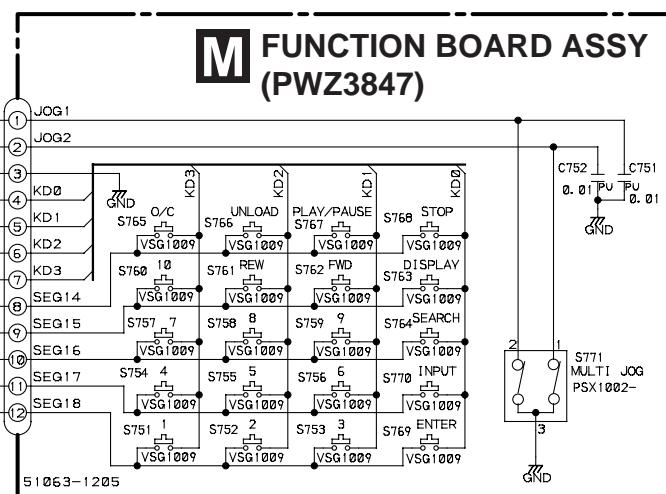
INDUCTORS

Axial type LAU

OTHERS

GND : CHASSIS GROUND

GND : LOW ACTIVE SIGNAL

**FUNCTION BOARD ASSY**

- S751-S760 : DIRECT CUSTOM (1-10)
- S761 : Track/Manual search (reverse direction)
- S762 : Track/Manual search (forward direction)
- S763 : TITLE/DISPLAY
- S764 : TITLE/SEARCH
- S765 : OPEN/CLOSE
- S766 : UNLOAD
- S767 : Play/Pause
- S768 : Stop
- S769 : ENTER
- S770 : TITLE/INPUT
- S771 : Jog dial

M N O

4. PCB CONNECTION DIAGRAM

4.1 MECHANISM BOARD, DOOR MOTOR BOARD, DOOR SW BOARD and LED BOARD ASSEMBLIES

NOTE FOR PCB DIAGRAMS:

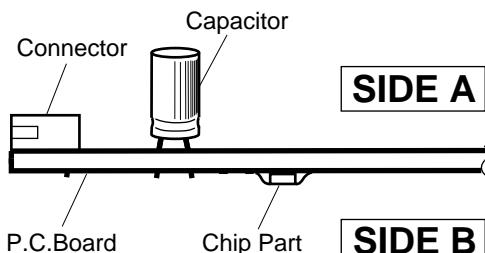
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

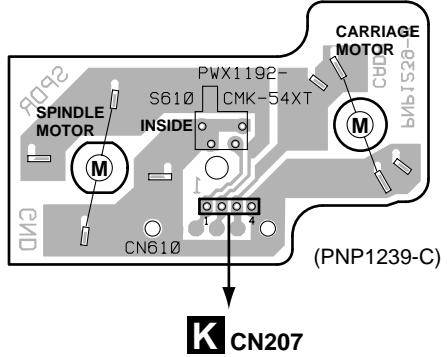
3. The parts mounted on this PCB include all necessary parts for several destination.

For further information for respective destinations, be sure to check with the schematic diagram.

4. Viewpoint of PCB diagrams

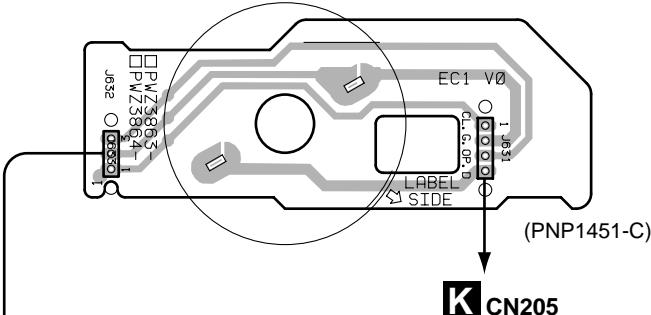


A MECHANISM BOARD ASSY



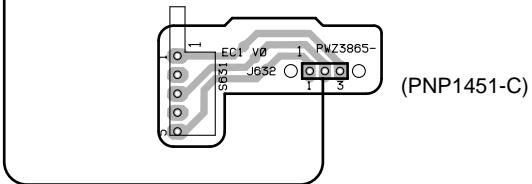
SIDE A

B DOOR MOTOR BOARD ASSY



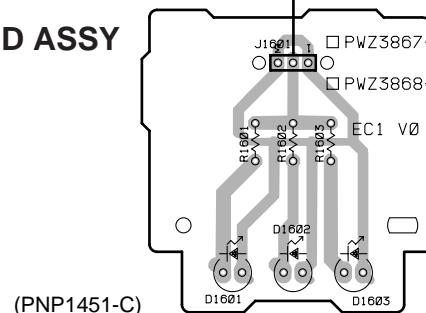
K CN205

C DOOR SW BOARD ASSY



K CN208

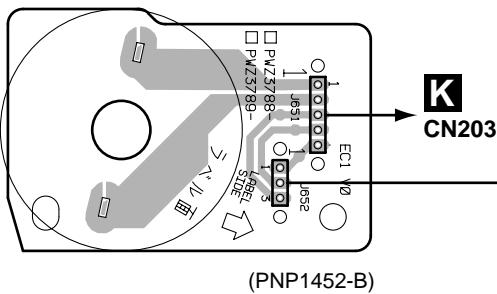
D LED BOARD ASSY



(PNP1451-C)

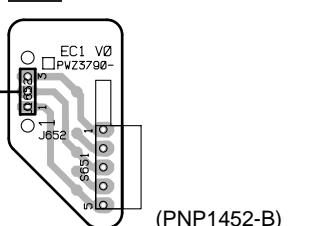
4.2 LOADING SW, LOADING BOARD, SENSOR BOARD, RECEIVE BOARD, RADIATE BOARD, SELECT BOARD and VOLUME BOARD ASSEMBLIES

F LOADING BOARD ASSY

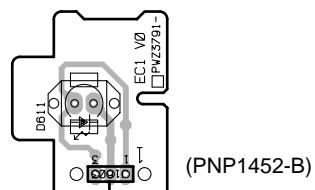


SIDE A

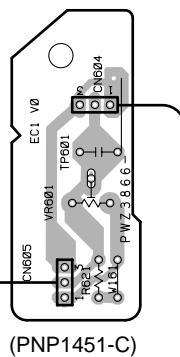
E LOADING SW ASSY



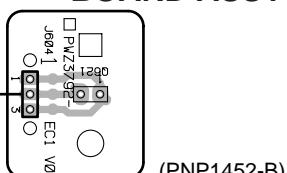
I RADIATE BOARD ASSY



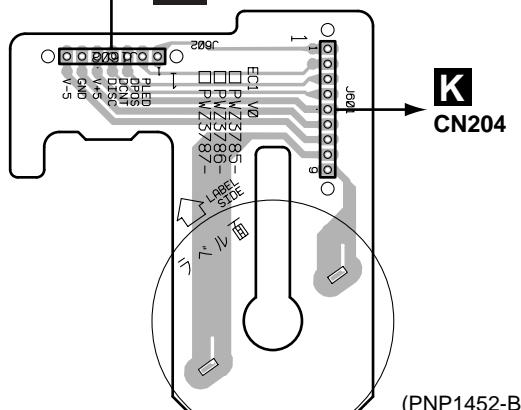
P VOLUME
BOARD ASSY



H RECEIVE
BOARD ASSY



J SELECT BOARD ASSY

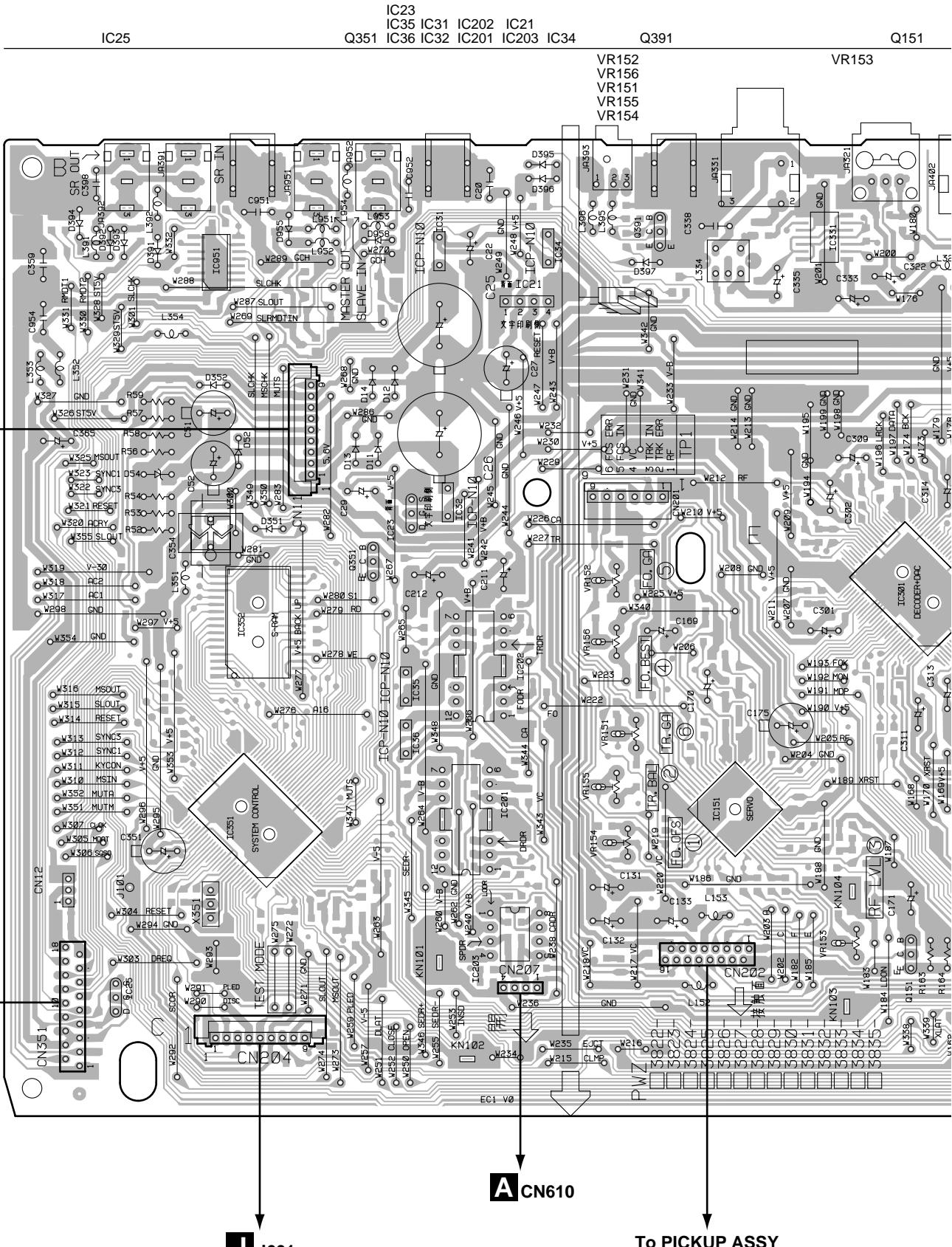


E F G H I J P

4.3 MAIN BOARD ASSY

K MAIN BOARD ASSY

SIDE A

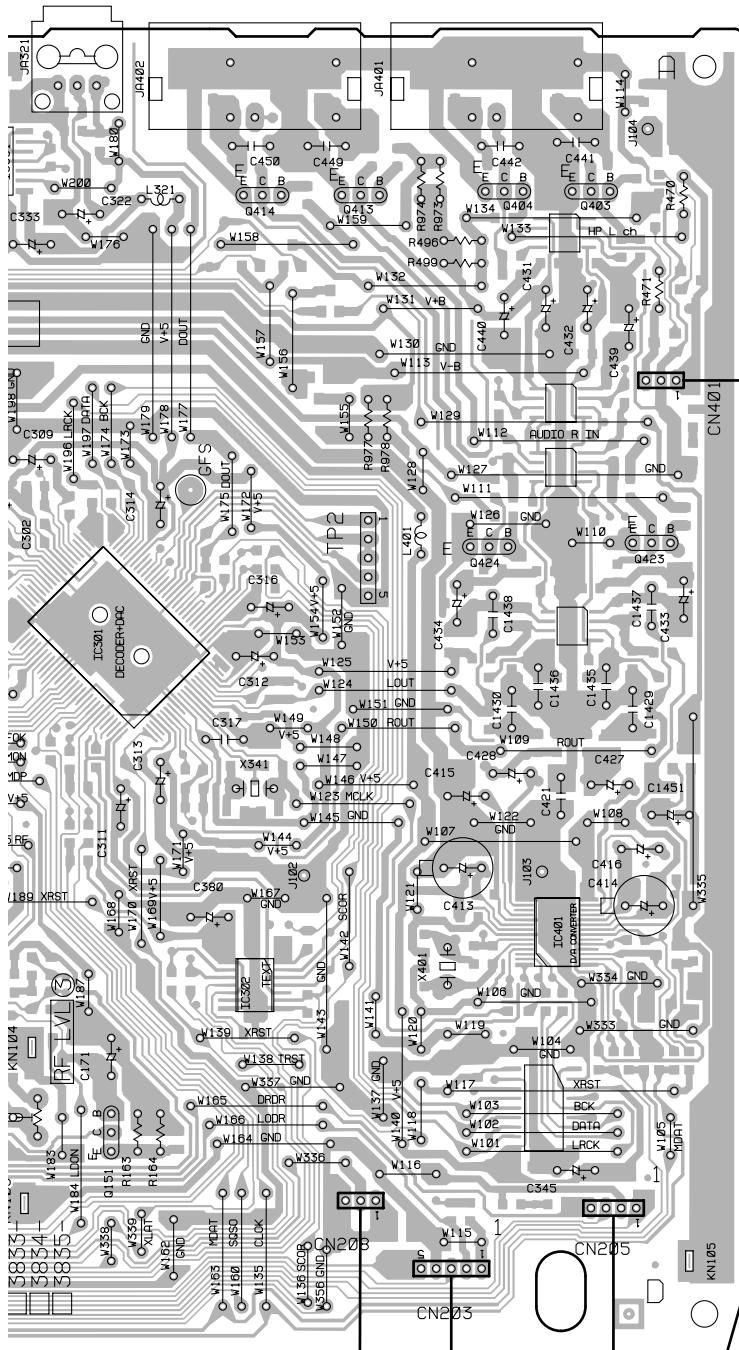


24

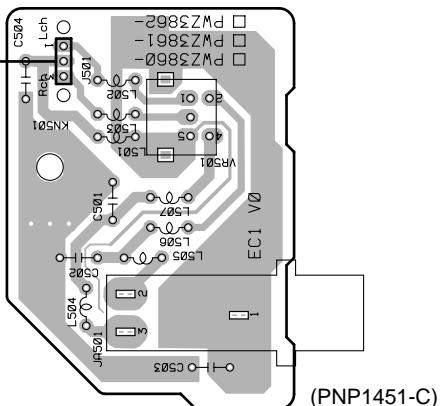
K

SIDE A

Q151 Q414 Q413 Q404
Q424 Q403 Q423
/R153



N HEADPHONE BOARD ASSY

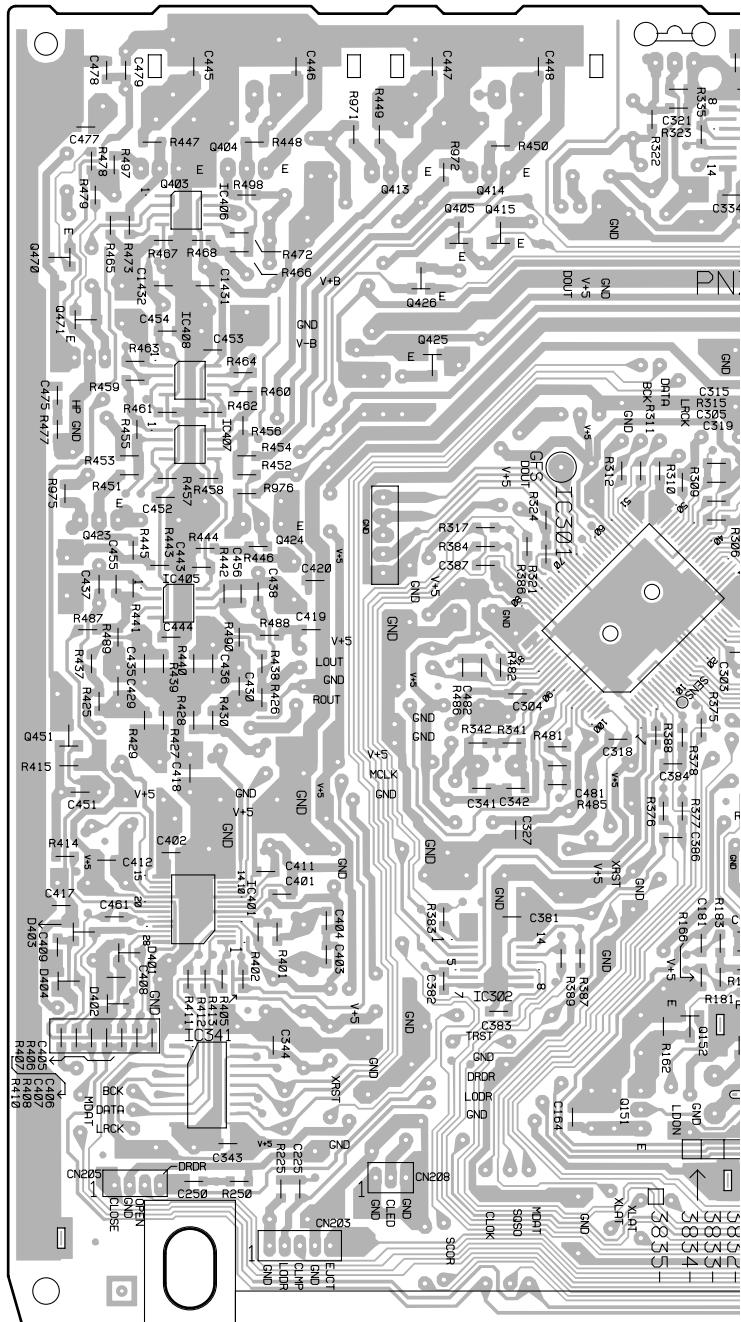


A

K MAIN BOARD ASSY

SIDE B

IC406
IC408
IC407
IC405
IC401
IC341
Q470
Q471
Q451
Q426
Q425 Q405 Q415
IC301 Q152



(PNP1450-A)

B

C

D

SIDE B

IC301 Q152 IC331 IC151 Q406 Q416

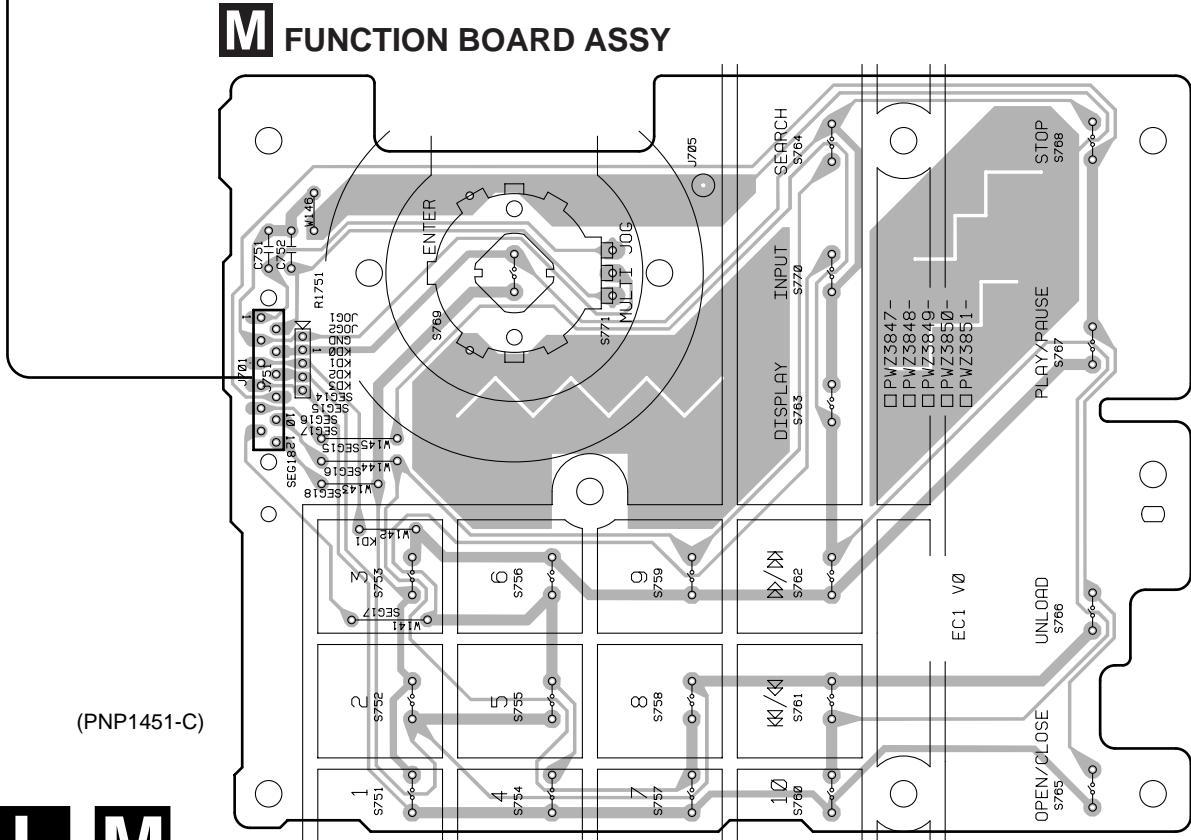
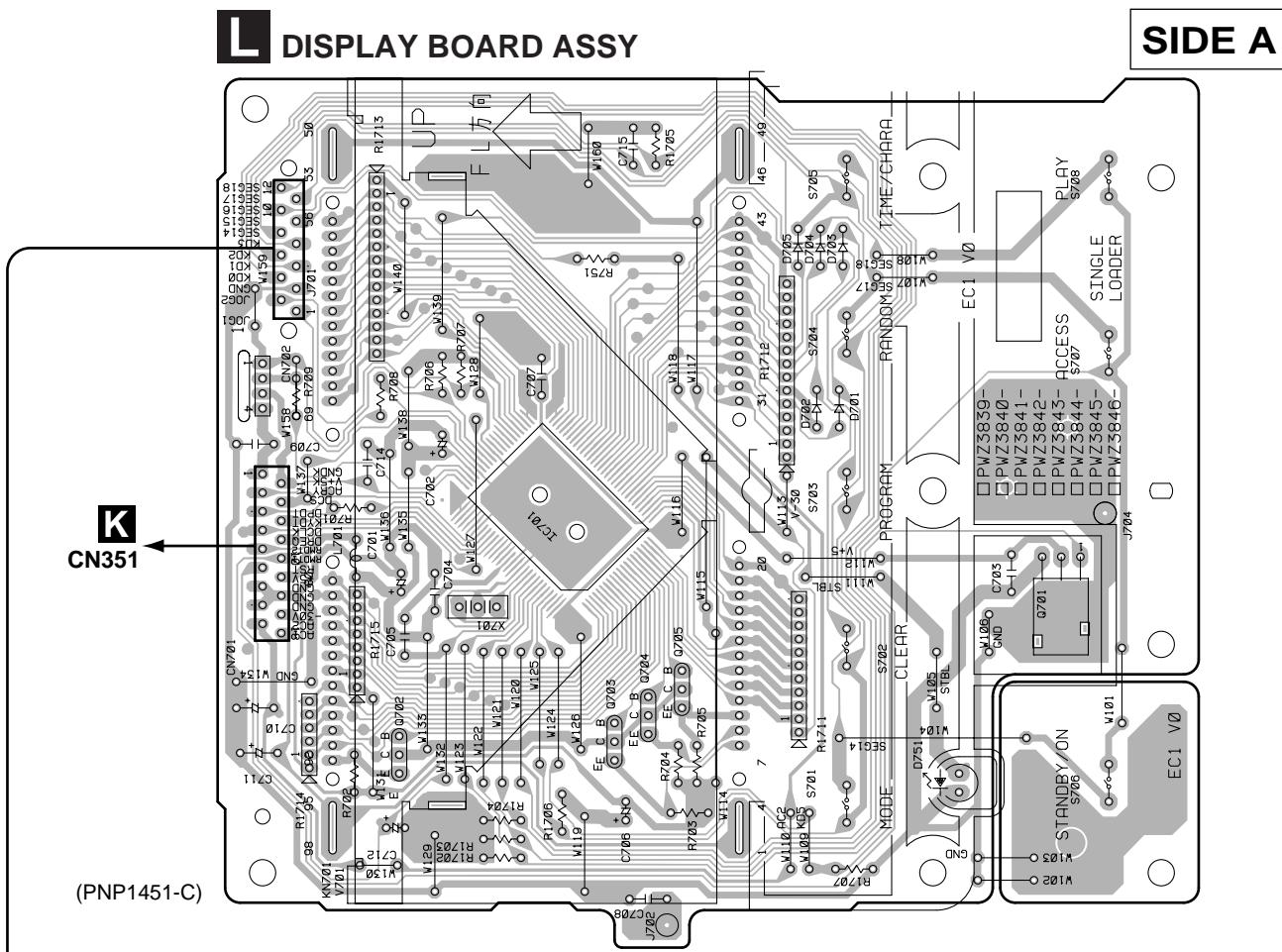
Q382
Q363
Q381
Q362 IC352
 IC351

IC301 **Q152** **IC331** **IC151** **Q406** **Q416** **Q362** **IC351**

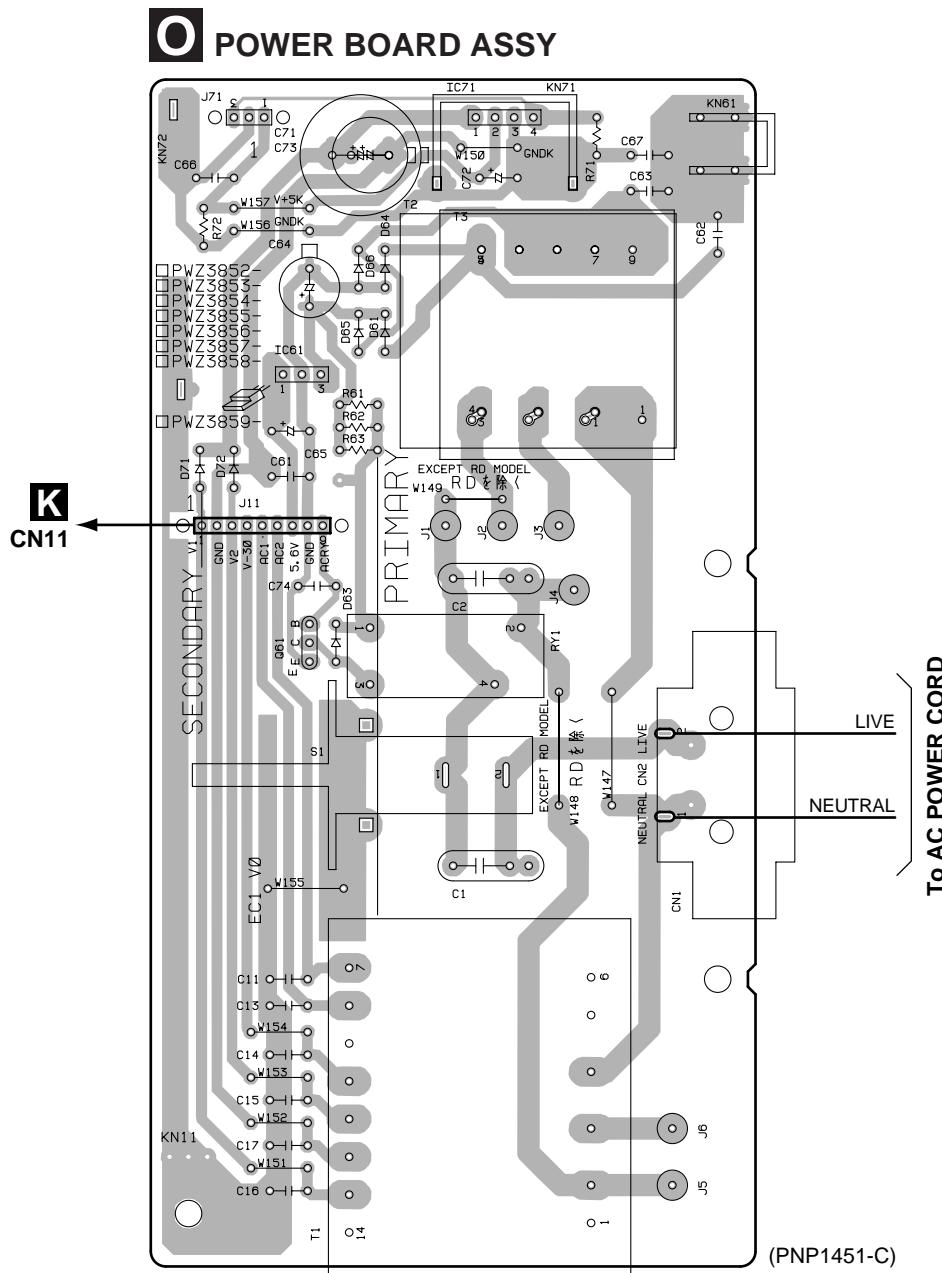
E

0

□



4.5 POWER BOARD ASSY



5. PCB PARTS LIST

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560	→	56×10^1	→	561	RD1/4PU [5] [6] J
47k	→	47×10^3	→	473	RD1/4PU [4] [7] J
0.5	→	R50			RN2H R [5] 0 K
1	→	IRO			RS1P I R [0] K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k	→	562×10^1	→	5621	RN1/4PC [5] [6] 2 J F
-------	---	-------------------	---	------	-------	-----------------------

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF PCB ASSEMBLIES							
 NSP	MOTHER BOARD ASSY	PWM2252				CABLE HOLDER	51048-0300
	└ MAIN BOARD ASSY	PWZ3822				CABLE HOLDER	51048-0700
NSP	MECHANISM BOARD ASSY	PWX1572		J603		3P JUMPER WIRE	D20PDD0310E
NSP	└ SENSOR BOARD ASSY	PWZ3781		J602		7P JUMPER WIRE	D20PDD0725E
NSP	└ SELECT BOARD ASSY	PWZ3785		J605		3P JUMPER WIRE	D20PDY0310E
NSP	└ LOADING BOARD ASSY	PWZ3788					
NSP	└ LOADING SW BOARD ASSY	PWZ3790					
NSP	└ RADIATE BOARD ASSY	PWZ3791					
NSP	└ RECIEVE BOARD ASSY	PWZ3792					
 NSP	SUB BOARD ASSY	PWX1576				CABLE HOLDER	51048-0700
	└ DISPLAY BOARD ASSY	PWZ3839				CABLE HOLDER	51048-0900
NSP	└ FUNCTION BOARD ASSY	PWZ3847		J601		9P JUMPER WIRE	D20PDY0930G
	└ POWER BOARD ASSY	PWZ3852					
NSP	└ HEADPHONE BOARD ASSY	PWZ3860					
NSP	└ DOOR MOTOR BOARD ASSY	PWZ3863					
NSP	└ DOOR SW BOARD ASSY	PWZ3865					
	└ VOLUME BOARD ASSY	PWZ3866					
NSP	└ LED BOARD ASSY	PWZ3867					
NSP	SERVO MECHANISM ASSY GM	PXA1591					
	└ MECHANISM BOARD ASSY	PWX1192					
A MECHANISM BOARD ASSY							
SWITCHES AND RELAYS							
S610		DSG1016				CABLE HOLDER	51048-0300
OTHERS						REAF SWITCH	VSK1011
CN610	MT CONNECTOR	173979-4					
G SENSOR BOARD ASSY							
SEMICONDUCTORS							
Q604		2SC1740S				CABLE HOLDER	51048-0300
Q601, Q602		DTC124ES				L.E.D. HOLDER	RNK1795
D601, D602		GP1S58V					
RESISTORS							
All Resistors		RD1/4PU □ □ □ J					
J SELECT BOARD ASSY							
OTHERS							
F LOADING BOARD ASSY							
OTHERS							
E LOADING SW BOARD ASSY							
OTHERS							
I RADIATE BOARD ASSY							
SEMICONDUCTORS							
D611							GL381J
OTHERS							

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
H		RECIEVE BOARD ASSY		C51			CEAT101M35
		SEMICONDUCTORS		C52			CEAT101M50
	Q621		PT381FBC	C433, C434, C439, C440			CEAT220M25
				C131-C133, C211, C212			CEAT330M16
				C169, C170			CEAT4R7M50
		OTHERS		C22			CEATR22M50
	J604	CABLE HOLDER 3P JUMPER WIRE	51048-0300 D20PDY0315E	C309			CEATR47M50
				C954			CFTLA104J50
				C441, C442			CKCYB102K50
				C317			CKCYF103Z50
K		MAIN BOARD ASSY		C359, C398, C951, C952			CKCYF473Z50
		SEMICONDUCTORS		C163			CKSQYB102K50
	IC151		CXA1782CQ	C156, C161, C164, C168, C218			CKSQYB103K50
	IC301		CXD2529Q	C153-C155, C158, C230, C250			CKSQYB104K25
⚠	IC35, IC36		ICP-N10	C176, C306			CKSQYB152K50
⚠	IC203		LA6517				CKSQYB222K50
⚠	IC201, IC202		LA6520	C305			CKSQYB332K50
	IC302		LC89170M	C162			CKSQYB333K25
	IC406		M5218AFP	C160			CKSQYB472K50
	IC352		M5M51008BFP-70LL	C167			CKSQYB473K25
	IC405, IC407, IC408		NJM4558MD	C152, C307			
⚠	IC23		NJM79M05FA	C151			CKSQYB682K50
⚠	IC351		PD4996A	C157			CKSQYB823K25
⚠	IC21		PQ05RR12	C159, C185, C191, C205, C210			CKSQYF103Z50
	IC25		S-806E	C215, C219, C303, C308, C318			CKSQYF103Z50
	IC951		TC74HC157AF	C331, C352, C353, C362, C363			CKSQYF103Z50
	Q151		2SA854S	C381, C382, C411, C412, C953			CKSQYF103Z50
	Q391		2SC1740S	C1431, C1432, C321			CKSQYF104Z50
	Q362, Q381		2SC2412K	C354 (0.1F/5.5V)			PCH1133
	Q351, Q403, Q404, Q413, Q414		2SD2144S	C25, C26 (4700μF/16V)			PCH1135
	Q423, Q424		2SD2144S				
	Q152, Q363, Q382, Q406, Q416		DTA124EK				
	Q426		DTA124EK	R56-R59			RD1/4PU241J
	Q405, Q415, Q425		DTC124EK	R52-R54			RD1/4PU272J
	D351, D352, D391-D397, D958		1SS254	R496, R499, R973, R974			RD1/4PU332J
	D951, D953, D956, D957, D959		DA204K	R977, R978			RD1/4PU332J
	D54		MTZJ24B	R163, R164, R470, R471			RD1/4PU470J
⚠	D11-D14, D52		S5688G	VR153, VR155 (10kΩ)			VCP1156
	D218		UDZS6.2B	VR151, VR152, VR154 (22kΩ)			VCP1158
				VR156 (220kΩ)			VCP1164
				Other Resistors			RS1/10S □□□J
		COILS AND FILTERS					
	L351		LAU100J				
	L391, L395, L396		LAU1R0J				
		CAPACITORS					
	C449, C450		CCCSL101J50				
	C181		CCSQCH100D50				
	C361, C386		CCSQCH101J50				
	C341, C342		CCSQCH120J50				
	C435, C436, C455, C456		CCSQCH150J50				
	C315		CCSQCH221J50				
	C481, C482		CCSQCH390J50				
	C171, C175, C27, C29		CEAT101M10				
	C301, C302, C311-C314, C316		CEAT101M10				
	C322, C351, C365		CEAT101M10				
		RESISTORS					
				R56-R59			
				R52-R54			
				R496, R499, R973, R974			
				R977, R978			
				R163, R164, R470, R471			
		OTHERS					
				CN207	MT 4P CONNECTOR	173981-4	
				CN208, CN401	3P JUMPER CONNECTOR	52147-0310	
				CN205	4P JUMPER CONNECTOR	52147-0410	
				CN203	5P JUMPER CONNECTOR	52147-0510	
				CN11, CN204	9P JUMPER CONNECTOR	52147-0910	
				JA401, JA402	JACK	DKB1031	
				JA321	OPTICAL LINK OUT	GP1F32T	
				CN351	CONNECTOR	HLEM16S-1	
				JA393	JACK	PKN1005	
				X341	XTAL. RES. (16.9344MHz)	PSS1008	

Mark	No.	Description	Part No.
JA391, JA392, JA951, JA952	JACK	RKN1004	
CN201	CONNECTOR 6P	RKP-533	
CN202	CONNECTOR PCB BINDER SCREW PLATE	SLW16S-1C7 VEF1040 VNE1948	
X351	CERAMIC RES.(4.19MHz)	VSS1028	

L DISPLAY BOARD ASSY

SEMICONDUCTORS

IC701	PD4997A
Q702-Q705	DTC124ES
D701-D705	1SS254
D751	SLR-342VCT31

SWITCHES AND RELAYS

S701-S705, S707, S708	VSG1009
-----------------------	---------

CAPACITORS

C706	CEAL100M50
C701, C702	CEAL101M6R3
C710, C711	CEAT100M50
C703	CKCYF103Z50
C704, C705	CKPUYF103Z25
C707, C708	CKPUYF104Z50

RESISTORS

All Resistors	RD1/4PU □□□J
---------------	--------------

OTHERS

C701	CABLE HOLDER CABLE HOLDER(12P) JUMPER WIRE REMOTE RECEIVER UNIT	51048-1300 51063-1205 D15A12-400-2651 GP1U28X
CN701	CONNECTOR 16P	HLEM16R-1
V701	FL INDICATOR TUBE	PEL1096
X701	CERAMIC RES.(4.19MHz)	VSS1028

M FUNCTION BOARD ASSY

SWITCHES AND RELAYS

S771	PSX1002
S751-S770	VSG1009

CAPACITORS

C751, C752	CKPUYF103Z25
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OTHERS

CABLE HOLDER(12P)	51063-1205
-------------------	------------

Mark	No.	Description	Part No.
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O POWER BOARD ASSY

SEMICONDUCTORS

△ IC61	NJM78M56FA
△ Q61	DTC124ES
△ D63	1SS254
△ D61	S5688G

SWITCHES AND RELAYS

△ S1	RSA1001
△ RY1	PSR1003

CAPACITORS

△ C1, C2	(10000pF/250V)	ACG7020
△ C74		CCCSL101J50
△ C65		CEAT101M10
△ C64		CEAT471M25
△ C11, C13-C17, C61-C63		CKCYF103Z50

RESISTORS

All Resistors	RD1/4PU □□□J
---------------	--------------

OTHERS

△ T2	CABLE HOLDER	51048-0900
△ J11	POWER TRANSFORMER	ATT1223
△ T1	JUMPER WIRE	D20PDY0925B
△ CN2	POWER TRANSFORMER	PTT1348
	AC CORD SOCKET	RKP1751
KN11	SCREW PLATE	VNE1948
	EARTH METAL FITTING	VNF1084

N HEADRHONE BOARD ASSY

COILS AND FILTERS

△ L501, L504, L505	LAU1R0J
--------------------	---------

CAPACITORS

△ C501, C502	CKCYF103Z50
△ C503	CKCYF473Z50

RESISTORS

VR501	(0.5kΩ(B))	PCS1003
-------	------------	---------

OTHERS

J501	CABLE HOLDER	51048-0300
JA501	JUMPER WIRE	D20PDY0355G
	JACK	RKN1002

B DOOR MOTOR BOARD ASSY

OTHERS

J631	CABLE HOLDER CABLE HOLDER JUMPER WIRE	51048-0300 51048-0400 D20PDY0445G
------	---	---

Mark	No.	Description	Part No.
-------------	------------	--------------------	-----------------

C DOOR SW BOARD ASSY

OTHERS

J632	CABLE HOLDER 3P JUMPER WIRE REAF SWITCH	51048-0300 D20PDD0315E VSK1011
------	---	--------------------------------------

P VOLUME BOARD ASSY

RESISTORS

VR601	(22kΩ)	VCP1158
-------	--------	---------

OTHERS

CN604, CN605	3P JUMPER CONNECTOR	52147-0310
KN601	JUMPER TERMINAL	PKX1001

D LED BOARD ASSY

SEMICONDUCTORS

D1601–D1603	SLR-342YCT31
-------------	--------------

RESISTORS

All Resistors	RD1/4PU □□□ J
---------------	---------------

OTHERS

J1601	CABLE HOLDER JUMPER WIRE	51048-0300 D20PDY0325E
-------	-----------------------------	---------------------------

6. ADJUSTMENT

6.1 PREPARATIONS

6.1.1 Jigs and Measuring Instruments

8 cm DISC (With at least about 20 minutes recording)	CD TEST DISC (YEDS-7)	⊖ screwdriver (small)	⊕ screwdriver (medium)	⊕ screwdriver (large)
⊖ Precise screwdriver	Ball point hexagon wrench (size: 1.5mm) GGK1002	Low-frequency oscillator	Dual-trace oscilloscope (10 : 1 probe)	Digital multi meter

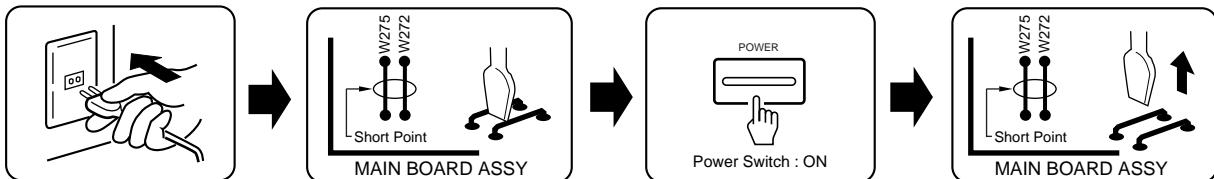
6.1.2 Necessary Adjustment Points

When	Adjustment points
Exchange PICKUP	1.2.3.4.5.6.7.8. 9.10.11.12.13 → Page 36 - 43
Exchange MAIN BOARD ASSY	2.4.6.7.8.9. 10.11.12.13 → Page 38 - 43
Exchange SERVO MECH ASSY	1.2.3.4.5.6.7.8. 9.10.11.12.13 → Page 36 - 43
Exchange SPINDLE MOTOR	ADJ → Page 8 1. → Page 36 - 37
Remove FRONT PANEL ASSY	1. → Page 36 - 37

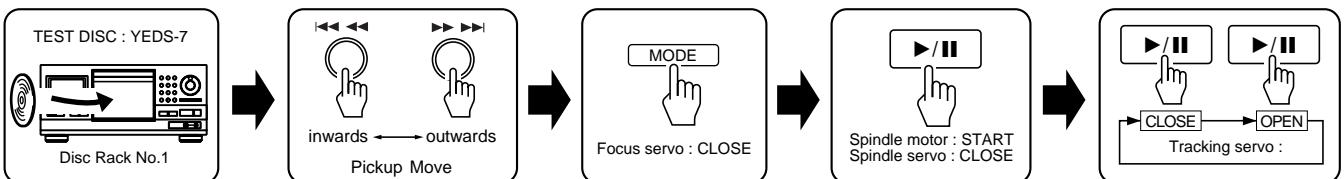
6.2 ADJUSTMENT

6.2.1 How to Start/Cancel Test Mode

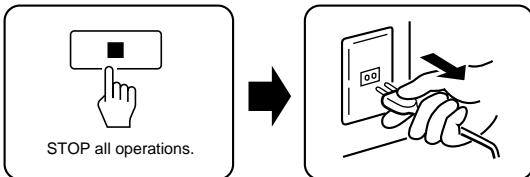
TEST MODE : ON



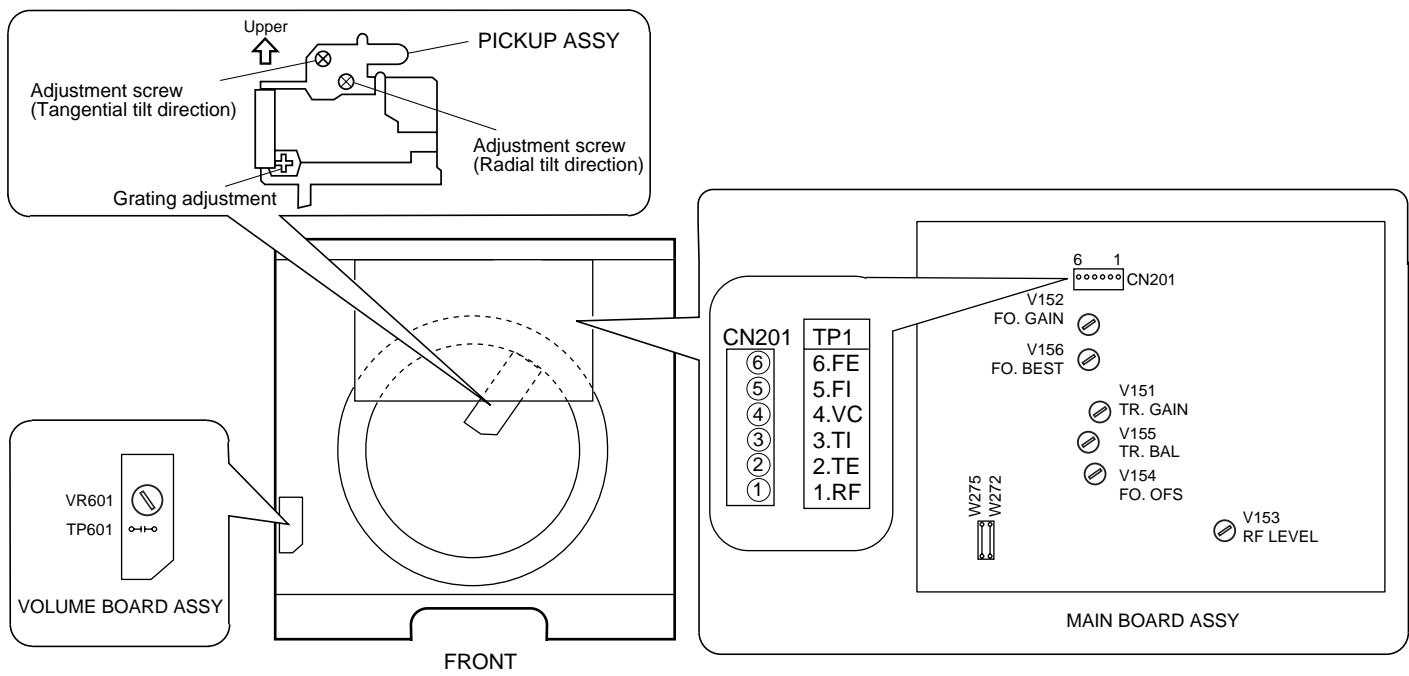
TEST MODE : PLAY



TEST MODE : STOP → CANCEL

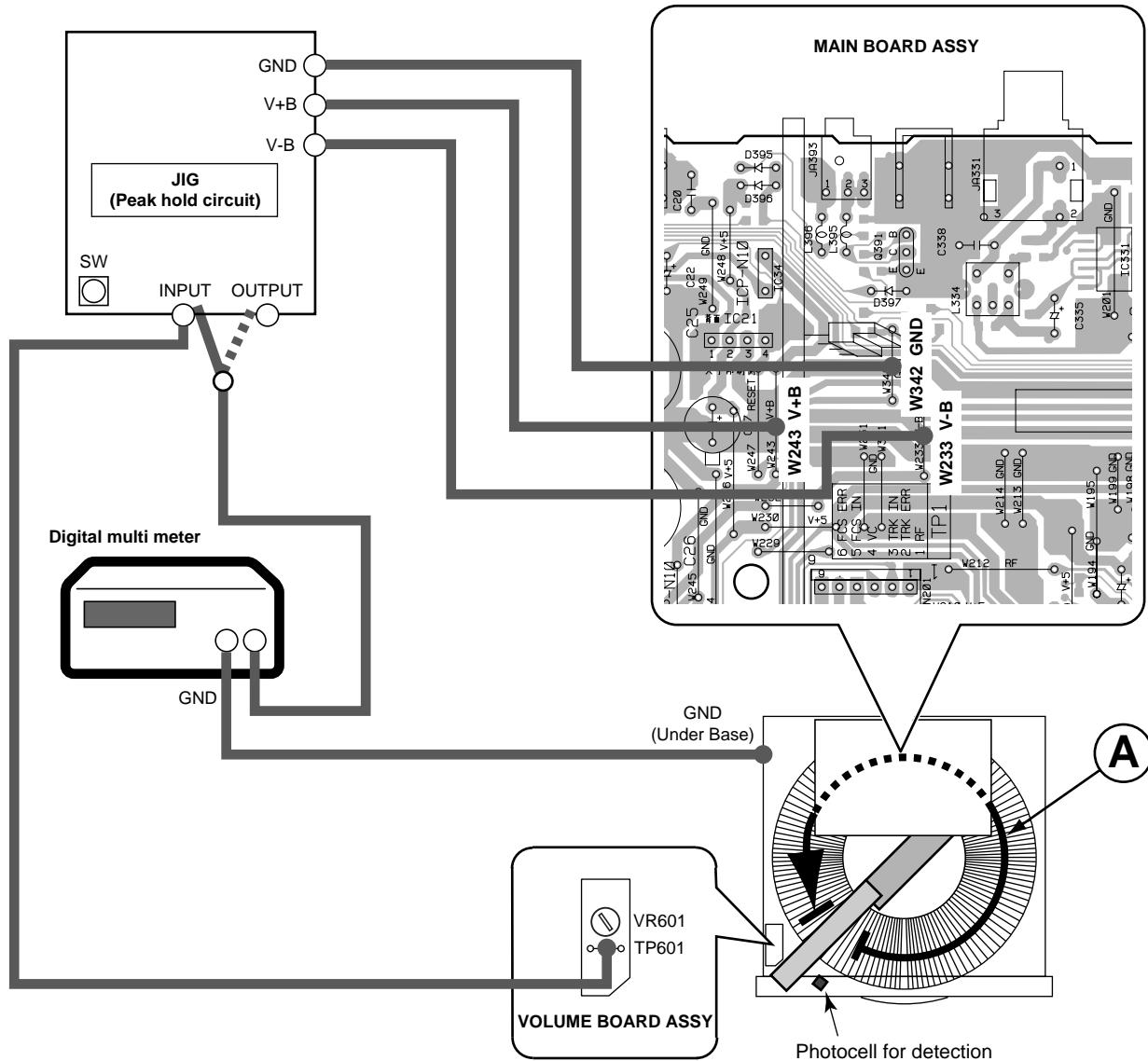


6.2.2 Adjustment Location



6.2.3 Check and Adjustment

1. Disc-detect Circuit Adjustment



Peak hold voltage (mV)	Revised voltage (mV)
to 840	+20
840 to 860	+10
860 to 900	+ 5
900 to 1150	OK
1150 to 1290	- 5
1290 to 1500	-10
1500 to 1820	-20
1820 to 2200	-30
2200 to	-40

Step 1: Connect all equipment as shown in the diagram.

Step 2: Turn on the power of the CD player. Put the test disc in the no. 1 disc slot.

Step 3: Turn the test mode on.

Step 4: Press the MODE key.

Step 5: Turn the VR601 on the VOLUME BOARD ASSY until the meter on the Digital Multi Meter reads $800 \pm 5\text{mV}$.

Step 6: Turn off the power of the CD player.

Step 7: Switch the connector that goes from the Digital Multi Meter to the Jig from input to output.

Step 8: Turn on the power of the CD player.

Step 9: Press the OPEN/CLOSE key twice. The 300 CD rack will spin around once.

Step 10: While the test disc is spinning around(Ⓐ section), press the switch on the jig and look at the Digital Multi Meter and record the number it is registering. After the CD rack has made a full rotation it will continue on slightly and return to the starting position. A second number will appear on the Digital Multi Meter, but you can ignore this number. If the number that appears on the meter while the rack is moving (the first number) is the important one. If it is between **900-1150 mV** you can stop the process, no correction is necessary.

Step 11: Switch the connection input between the Digital Multi Meter and the Jig back to input.

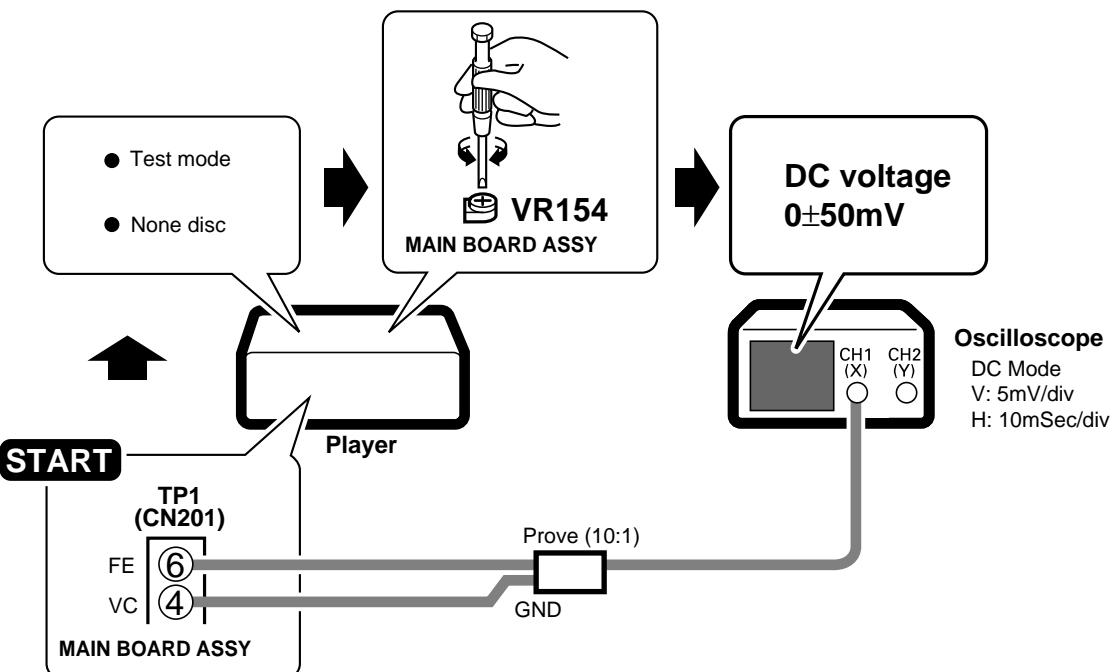
Step 12: Turn the test mode on.

Step 13: Press the MODE key.

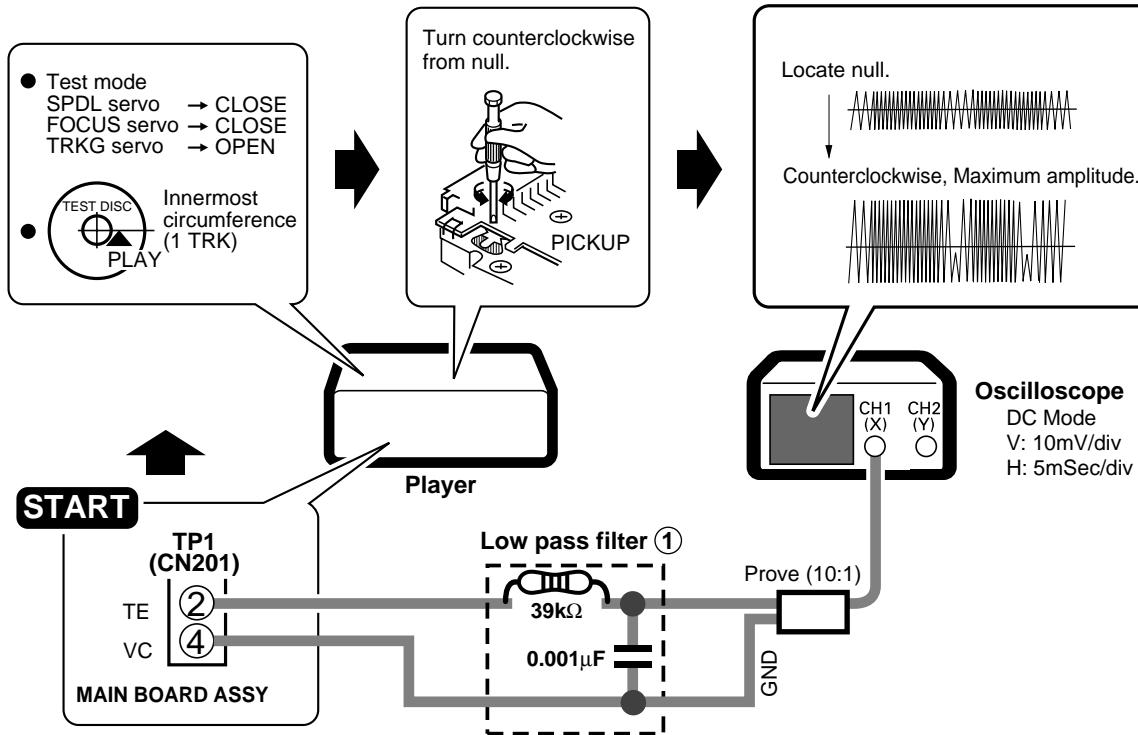
Step 14: Turn the VR601 on the VOLUME BOARD ASSY to match the first number on the Digital Multi Meter with the chart provided below.

Step 15: Do steps 6-10 again. In step 10, the number that appears on the Digital Multi Meter should be between **900-1150 mV**. If it is you have completed the correction.

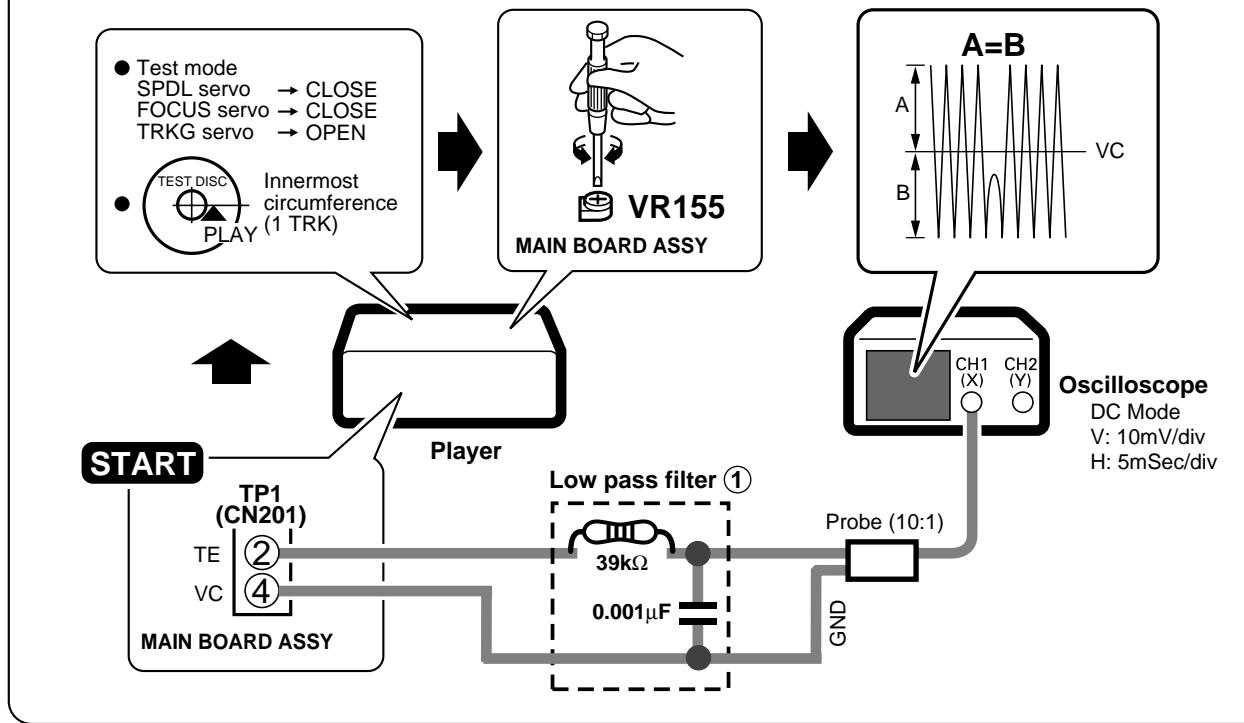
2. Focus Offset Adjustment



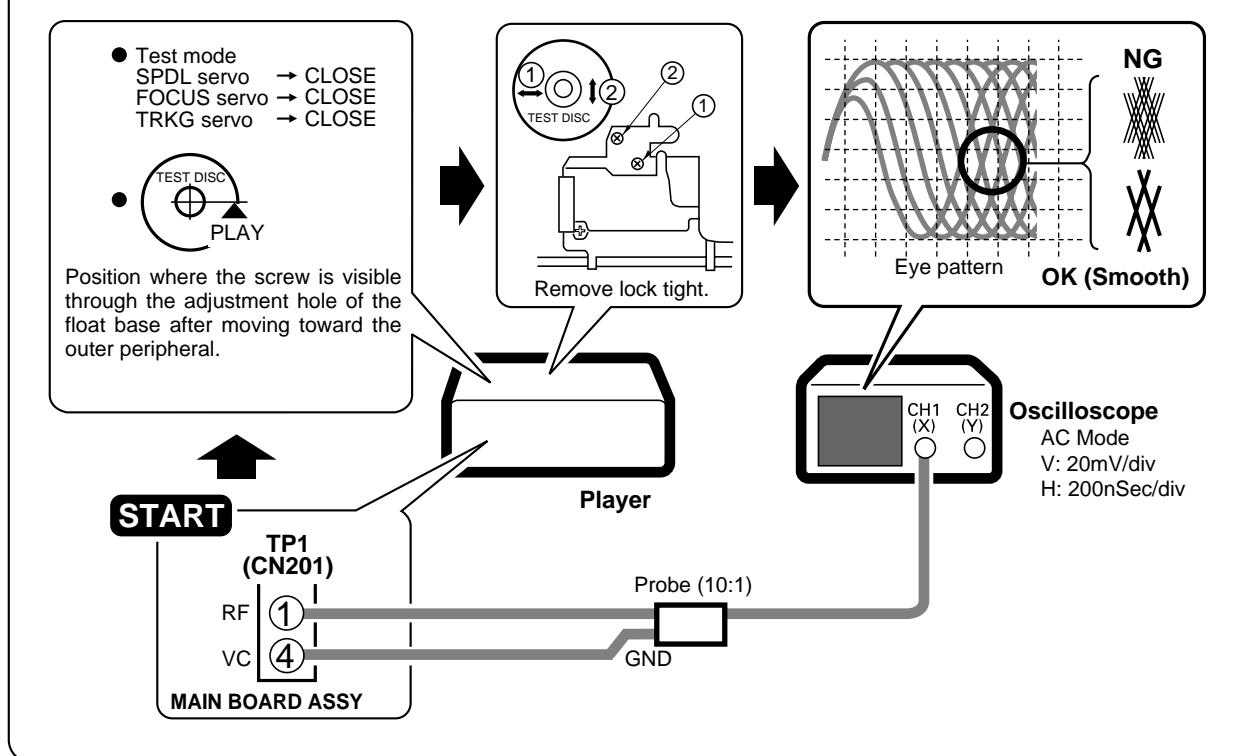
3. Grating Adjustment



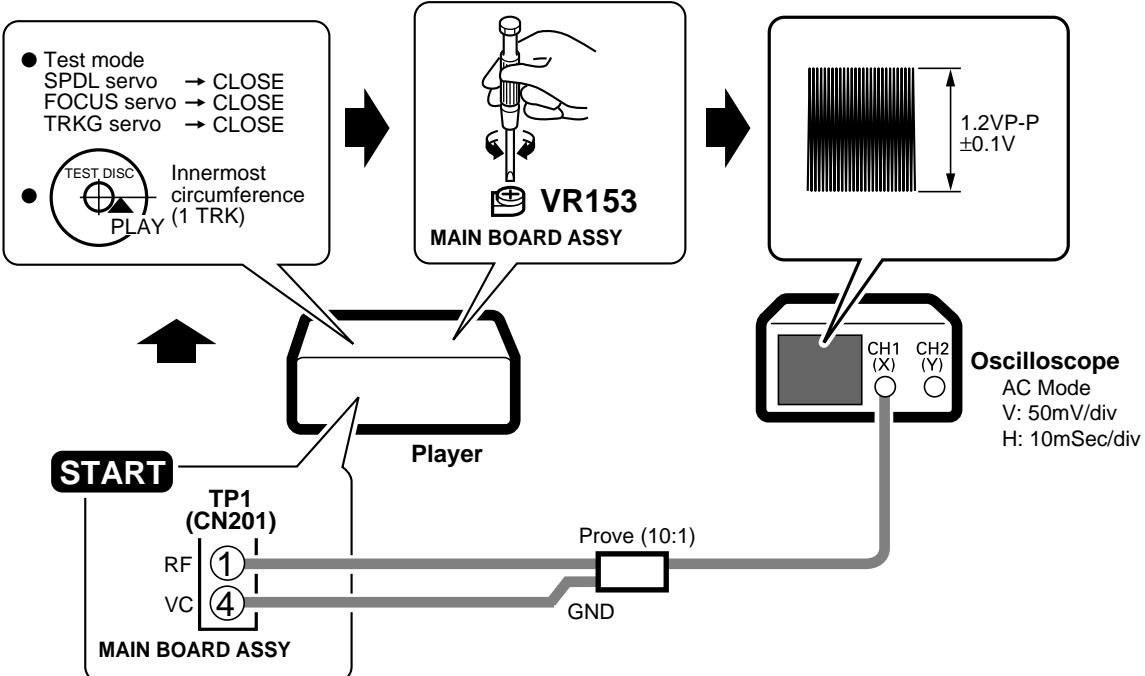
4. Tracking Error Barance Adjustment



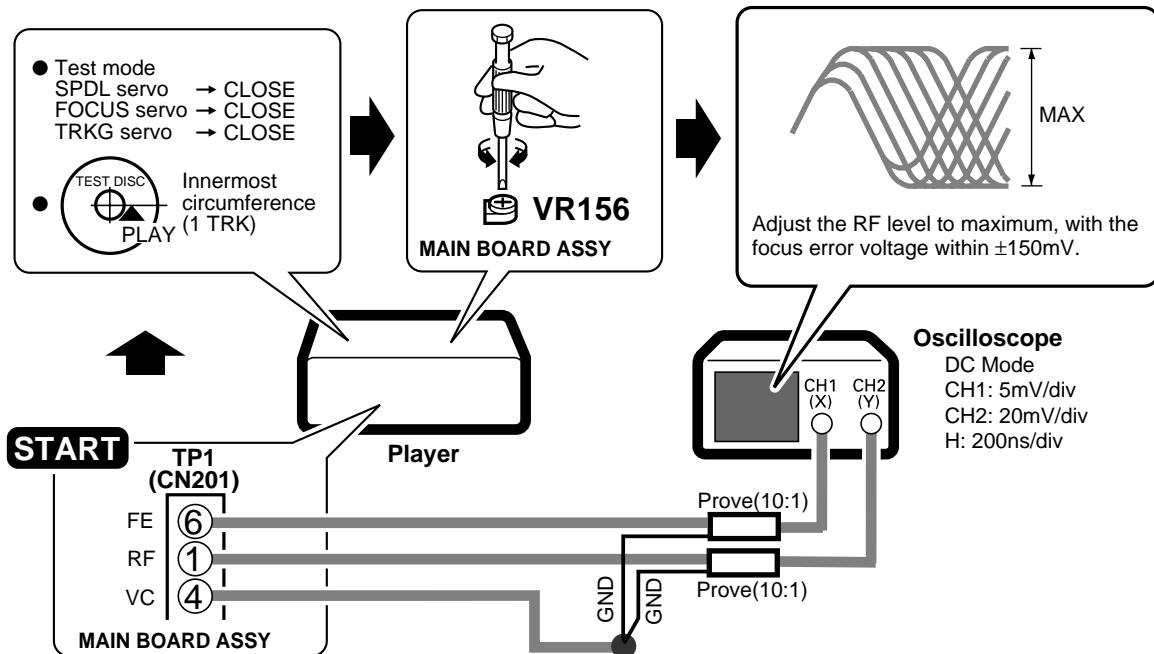
5. Pickup ①Radial/ ②Tangential Direction Tilt Adjustment



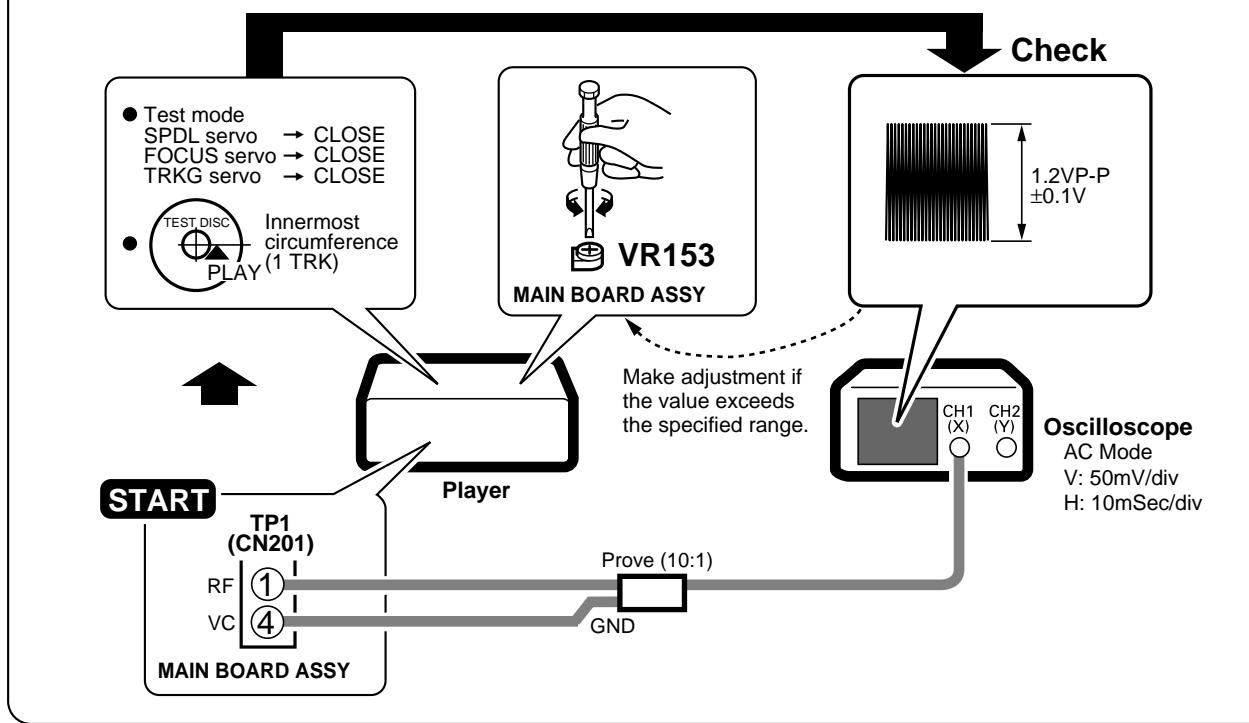
6. RF Level Adjustment I



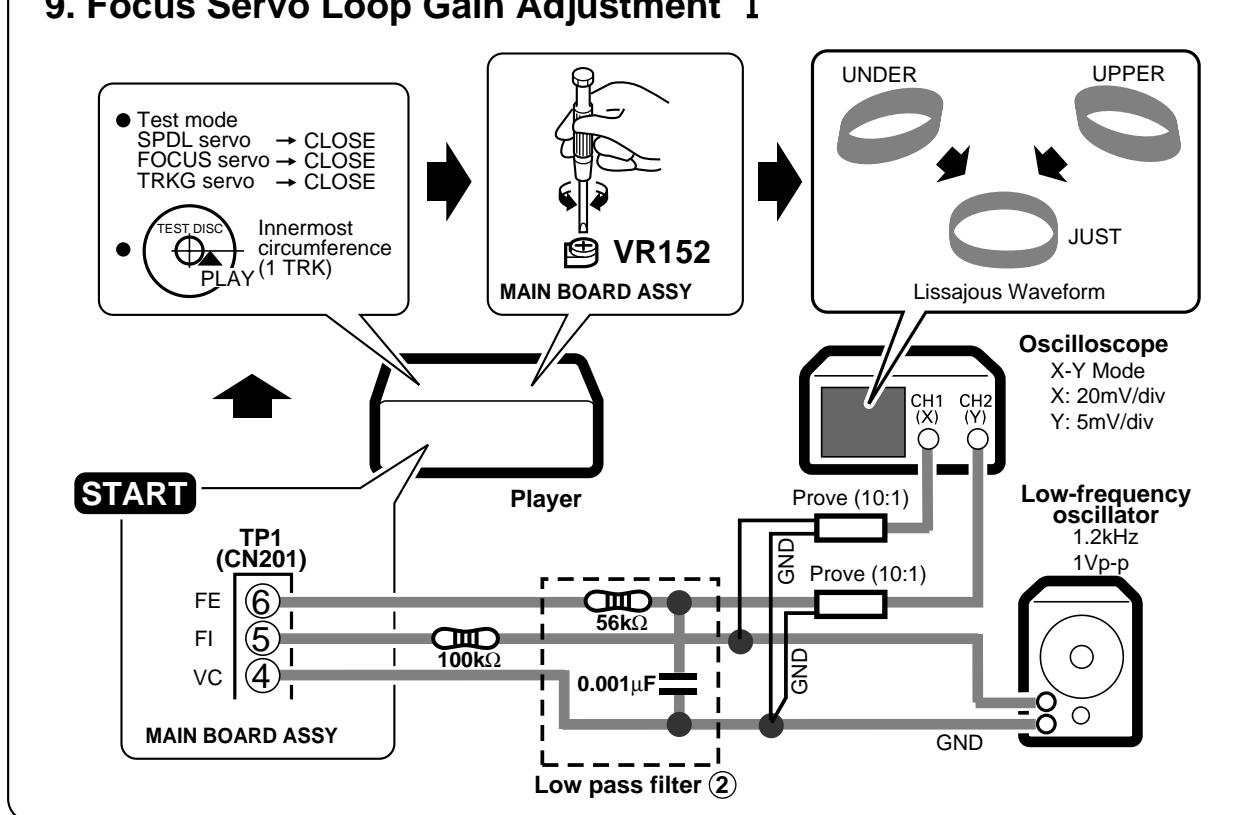
7. Focus Best Adjustment I



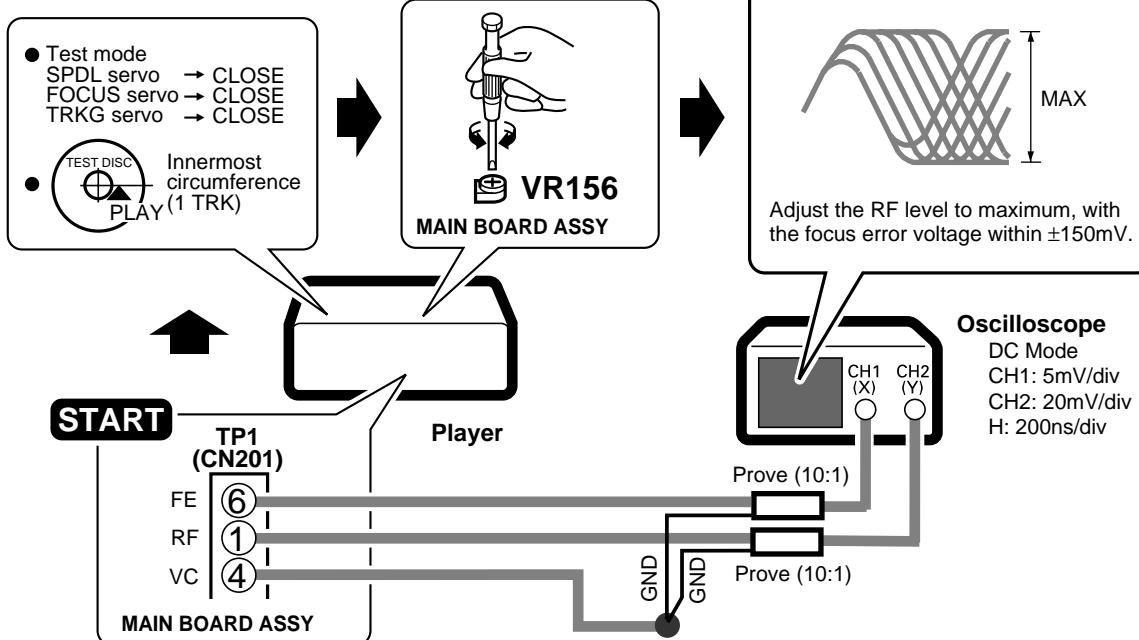
8. RF Level Adjustment Ⅱ



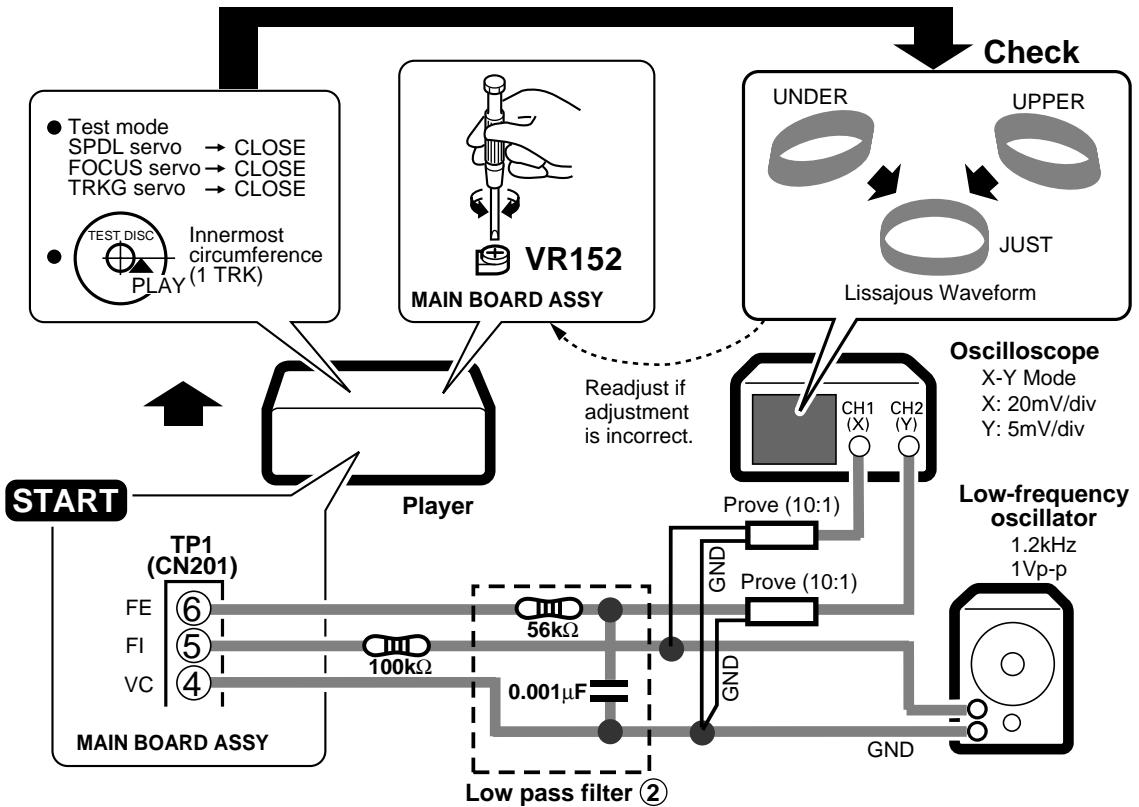
9. Focus Servo Loop Gain Adjustment I



10. Focus Best Adjustment II

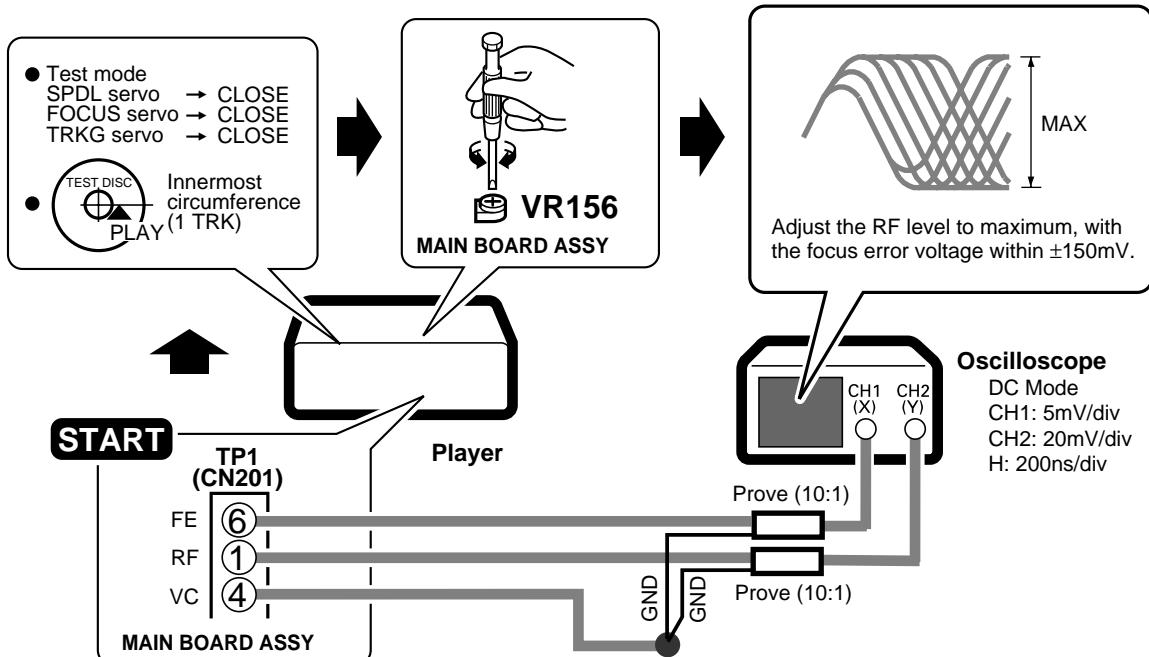


11. Focus Servo Loop Gain Adjustment II

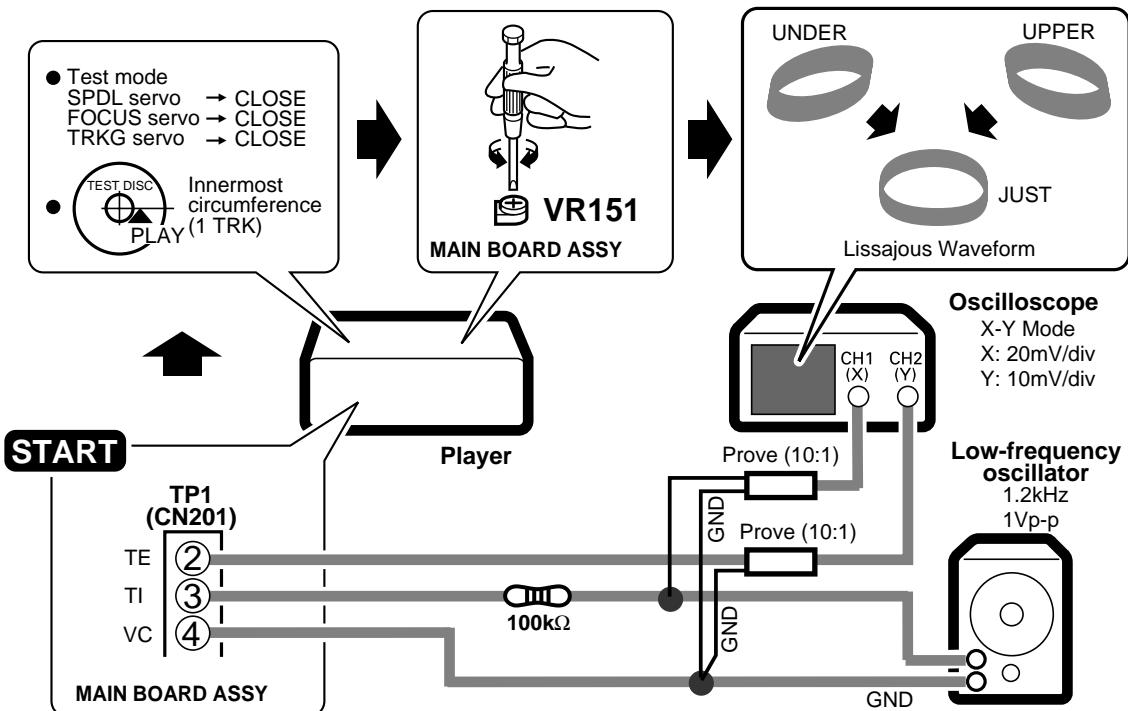


12. Focus Best Adjustment III

Adjust this point only if adjustment was made in item 10.



13. Tracking Servo Loop Gain Adjustment



7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

■ PD4997A (IC701: DISPLAY BOARD ASSY)

● Display Control Micro-computer

● Pin Function

No.	Symbol	Name	I/O	Description
1	VDD	VDD	-	+5V
2	P37	Not used	O	Open Key data input CPU reset (L: Reset)
3	P36/BUZ	Not used	O	
4	P35/PCL	KD5	I	
5	P34/TI2	KD4	I	
6	P33/TI1	KD3	I	
7	P32/TO2	KD2	I	
8	P31/TO1	KD1	I	
9	P30TO0	KD0	I	
10	RESET	RESET	I	
11	X2	X2	-	Connected to System clock oscillator (4.19 MHz)
12	X1	X1	-	
13	IC	IC	-	GND
14	XT2	XT2	-	Not Connect (open)
15	P04/XT1	Not used	O	Only for input: Input of GND
16	VDD	VDD	-	+5V
17	P27/SCK0	Not used	O	Open Completion of transmission setting to the main microcomputer
18	P26/SO0/SB1	Not used	O	
19	P25/SI0/SB0	Not used	O	
20	P25/BUSY	Not used	O	
21	P23/STB	DREQ	O	
22	P22/SCK1	DCLK	I	Clock input for serial communication with the main microcomputer
23	P21/SO1	KYDT	O	Serial data output to the main microcomputer
24	P20/SI1	DPDT	I	Serial data input from the main microcomputer
25	AVSS	AVSS	-	GND
26 30	P17/ANI7 P13/ANI3	Not used	O	OPEN
31	P12/ANI2	ACRY	O	Main microcomputer power ON/OFF

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

No.	Symbol	Name	I/O	Description
32	P11/ANI1	KBDAT	I	Keyboard communication data transmission and reception
33	P10/ANI0	Not used	O	Open
34	AVDD	AVDD	-	+5V
35	AVREF	AVREF	-	GND
36	P03/INTP3	DCS	I	Serial communication timing input from the main microcomputer
37	P02/INTP2	KBCLK	I	Keyboard communication data clock input
38	P01/INTP0	JOG1	I	JOG input 1
39	P00/INTP0/TI0	RMDT	I	Remote control data input
40	VSS	VSS	-	GND
41 44	P74 P71	Not used	O	OPEN
45	P70	JOG2	I	JOG input 2
46	VDD	VDD	-	+5V
47	P127/FIP52	STBL	O	STANDBY-LED
48 54	P126/FIP51 P120/FIP45	S36 S30	O	Segment output for FL drive
55 62	P117/FIP44 P110/FIP37	S29 S22	O	
63 70	P107/FIP36 P100/FIP29	S21 S14	O	
71 78	P97/FIP28 P90/FIP21	S13 S6	O	
79	VLOAD	VLOAD	-	-30V
80 84	P87/FIP20 P84/FIP16	S5 S1	O	
85 87	P83/FIP15 P80/FIP13	G16 G14	O	
88 100	FIP12 FIP0	G13 G1	O	

■ PD4996A (IC351: MAIN BOARD ASSY)

● System Control Micro-computer

● Pin Function

No.	Symbol	Name	I/O	Description
1	P120/RTP0	DLAT	O	DAC control data, latch pulse output
2	P121/RTP1	XLAT	O	LSI control data, latch pulse output
3	P122/RTP2	Not used	O	Output of "L"
4	P123/RTP3	<u>INSD</u>	I	Slider INSIDE switch input (L: INSIDE)
5	P124/RTP4	<u>OPEN</u>	I	Hood open switch input (L: Opening completed)
6	P125/RTP5	<u>CLS</u>	I	Hood close switch input (L: Closing completed)
7	P126/RTP6	<u>EJCT</u>	I	Loading out switch input (L: Ejection completed)
8	P127/RTP7	<u>CLMP</u>	I	Loading mechanism clamping switch input (L: Clamping completed)
9	IC	IC	-	GND
10	X2	X2	-	Connected to System clock oscillator (4.19 MHz)
11	X1	X1	-	
12	VDD	VDD	-	+5V
13	XT2	XT2	-	Not Connect (open)
14	P07/XT1	Not used	I	Input of 5 V (only for input)
15	<u>RESET</u>	<u>RESET</u>	I	CPU reset (L: Reset)
16	P00/INTP0/TI00	DREQ	I	Communication start request input from the SUD microcomputer (L: Communication start)
17	P01/INTP1/TI01	Not used	O	Output of "L"
18	P02/INTP2	DPOS	I	Pulse input for disc position detection
19	P03/INTP3	SCOR	I	Subcode synchronization S0+S1 input
20	P04/INTP4	DISC	I	Disc detection pulse input (L: Disc present)
21	P05/INTP5	Not used	O	Not used
22	P06/INTP6	DCNT2	I	Disc count pulse input 2
23	AVdd	AVdd	-	VDD
24	AVref0	AVref0	-	GND
25	P10/ANI0	Not used	O	Output of "L"
26	P11/ANI1	MUTM	O	Master side mute output (L: Mute)
27	P12/ANI2	MUTA	O	Audio muting output (L: Mute)
28	P13/ANI3	Not used	O	Output of "L"
29	P14/ANI4	MSIN	I	Master input (response from the slave)
30	P15/ANI5	KYCON	O	Keyboard power supply control (H: Power ON)

No.	Symbol	Name	I/O	Description
31	P16/ANI6	SYNC1	I	Synchronization input (pull-up required)
32	P17/ANI7	SYNC3	O	Synchronization output
33	AVSS	AVSS	-	GND
34	P130/AN00	Not used	O	Output of "L"
35	P131/AN01	Not used	O	Output of "L"
36	AVref1	AVref1	-	VDD
37	P70/SI2/RxD	SRDT	I	CD TEXT data input
38	P71/SO2/TxD	Not used	O	Output of "L"
39	P71/SCK2/ASCK	SCLK	O	CD TEXT data fetch clock output
40	Vss	Vss	-	GND
41	P20/SI1	KYDT	I	Communication data input in regard to the SUB microcomputer
42	P21/SO1	DPDT	O	Communication data output in regard to the SUB microcomputer
43	P22/SCK1	DCLK	O	Communication clock in regard to the SUB microcomputer
44	P23/STB	DCS	O	Communication request output in regard to the SUB microcomputer (H → L: Communication request)
45	P24/BUSY	Not used	O	Output of "L"
46	P25/SI0/SB0	SQSO	I	Q data serial input (combined use for FCOK/GFS/SENS)
47	P26/S00/SB1	MDAT	O	LSI control data serial output
48	P27/SCK0	CLOK	O	Serial clock
49	P80/A0	A0	O	External RAM address line
56	P87/A7	A7	O	
57	P40/AD0	A4	O	
58	P41/AD1	A12	O	
59	P42/AD2	A10	O	
60	P43/AD3	A11	O	
61	P44/AD4	A9	O	
62	P45/AD5	A8	O	
63	P46/AD6	A13	O	External RAM data Input/Output
64	P47/AD7	A15	O	
65	P50/A8	IO4	O	
69	P54/A12	IO8	O	
70	P55/A13	IO1	O	

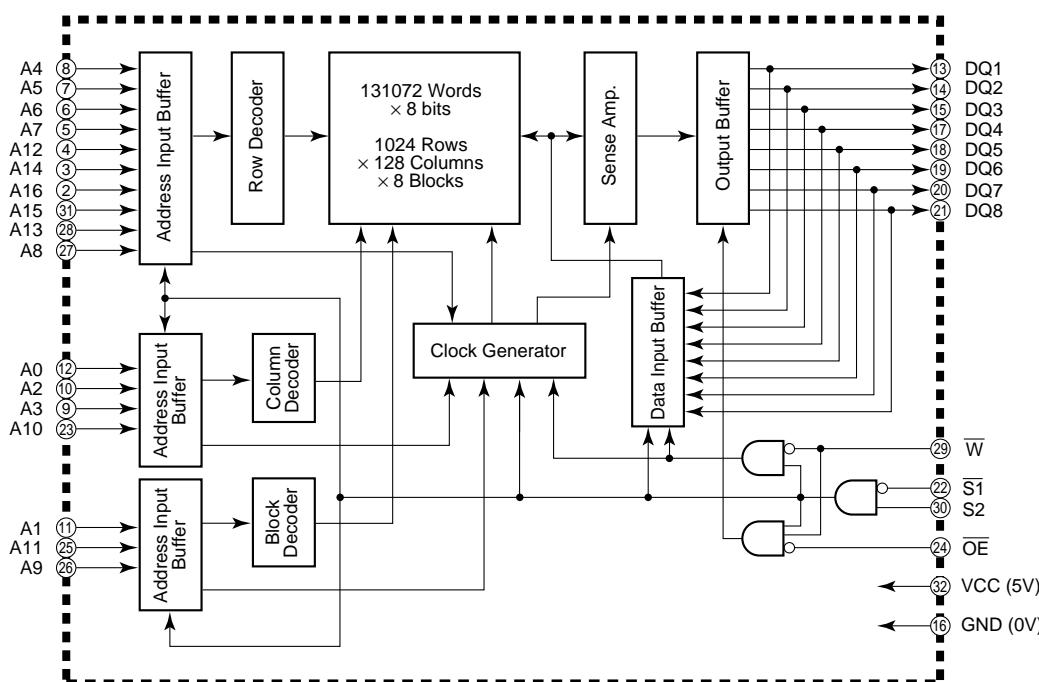
No.	Symbol	Name	I/O	Description
71	Vss	Vss	-	GND
72	P56/A14	IO2	O	External RAM data Input/Output
73	P57/A15	IO3		
74	P60	SCHK	I	Input for slave judgment (L: Slave)
75	P61	MCHK	I	Input for master judgment (L: Master)
76	P62	Not used	O	Output of "L"
77	P63	Not used		
78	P64/RD	A16	O	External RAM address line
79	P65/WR	WE	O	Write control output (L: Write)
80	P66/WAIT	CS	O	External RAM chip selection output (H: Standby)
81	P67/ASTB	RD	O	Read control output (L: Read)
82	P100/TI5/T05	MUTS	O	Slave side mute output (L: Mute)
83	P101/TI6/T06	DSLT	O	Selector output Count-up (DSRT: L, DSLT: H) Count-down (DSRT: H, DSLT: L) Stopped (DSRT: L, DSLT: L)
84	P102	DSRT	O	
85	P103	MOPN	O	Door motor output Open (MOPN: H, MCLS: L) Close (MOPN: L, MCLS: H) Stop (MOPN: L, MCLS: L)
86	P30/T00	MCLS	O	

No.	Symbol	Name	I/O	Description
87	P31/TO1	LIN	O	Output for loading motor IN (LIN: H, LOUT: L) OUT (LIN: L, LOUT: H) Stop (LIN: L, LOUT: L)
88	P32/TO2	LOUT	O	
89	P33/TI1	LDON	O	Laser diode output (H: ON, L: OFF)
90	P34/TI2	XRST	O	Reset output for each LSI
91	P35/PCL	TRST	O	CD TEXT decoder IC reset output (L: Reset)
92	P36/BUZ	CLED	O	Center LED lighting control (H: Lit)
93	P37	PLED	O	Sensor output for disc detection (H: Lit)
94	P90	Not used	O	Output of "L"
95	P91	TRST	I	Test mode input for checker (H: Test)
96	P92	MSOT	O	Master control output (control of the slave)
97	P93	SLOT	O	Slave output (response to the master)
98	P94	HBIT	I	Hi-bit correspondence switching input (H: Hi-bit correspondence)
99	P95	TEST	I	Test mode switching input (H: Test mode)
100	P96	DQSY	I	CD TEXT data timing input

■ M5M51008BFP-70LL (IC352: MAIN BOARD ASSY)

● S-RAM

● Block Diagram

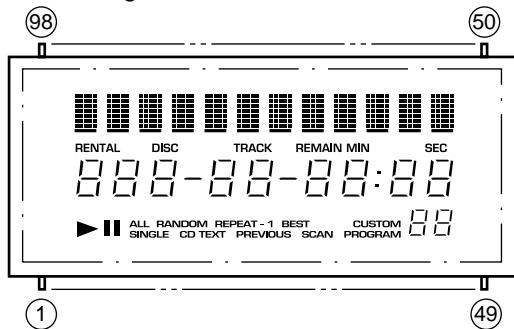


7.1.2 DISPLAY

■ PEL1096 (V701: DISPLAY BOARD ASSY)

● Vacuum Fluorescent Display

● Pin Assignment

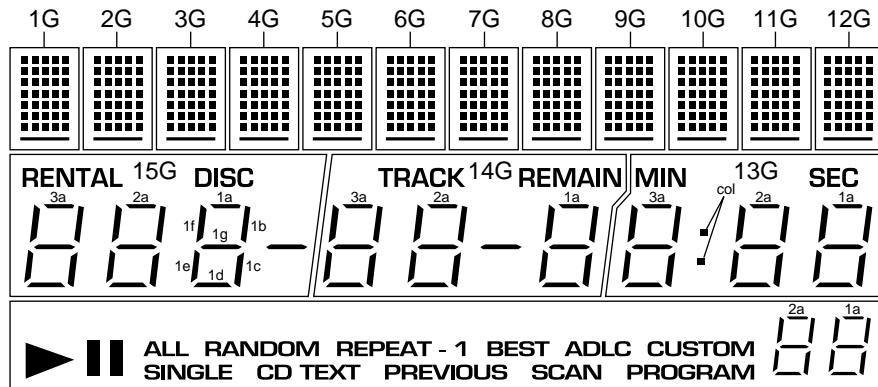
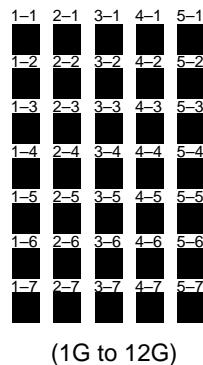


● Pin Connection

PIN NO.	9 8	9 7	9 6	9 5	9 4	9 3	9 2	9 1	9 0	9 9	8 8	8 7	8 6	8 5	8 4	8 3	8 2	8 1	8 0	7 9	7 8	7 7	7 6	7 5	7 4	7 3	7 2	7 1	7 0	6 9	6 8	6 7	6 6
CONNECTION	F 1	F 1	F 1	F 1	N P	N P	1 3	1 2	1 1	1 0	9 G	8 G	7 G	6 G	5 G	4 G	3 G	2 G	1 G	N X	N X	N X	N X	N X	N C	P 3	P 3	P 3	P 3				
PIN NO.	6 5	6 4	6 3	6 2	6 1	6 0	5 9	5 8	5 7	5 6	5 5	5 4	5 3	5 2	5 1	5 0	4 9	4 8	4 7	4 6	4 5	4 4	4 3	4 2	4 1	4 0	3 9	3 8	3 7	3 6	3 5	3 3	3 3
CONNECTION	P 3	P 3	P 3	P 3	P 2	P 2	P 2	P 2	P 2	P 2	N P	P F	N P	P N	P N	P N	P N	P 1															
PIN NO.	3 2	3 1	3 0	3 9	2 8	2 7	2 6	2 5	2 4	2 3	2 2	2 1	2 0	1 9	1 8	1 7	1 6	1 5	1 4	1 3	1 2	1 1	1 0	9 8	8 7	6 5	4 3	2 1	2 1				
CONNECTION	P 2	P 1	N X	P 10	P 9	P 8	P 7	P 6	P 5	P 4	P 3	P 2	P 1	1 6	1 5	1 4	I C	N P	F 1	F 1	F 1	F 1											

Note 1) F1, F2	Filament	5) DL	Datum Line
2) NP	No Pin	6) 1G to 16G	Grid
3) NX	No extend Pin	7) IC	Internal Connection
4) NC	No Connection		

- Grid Assignment



- Anode Connection

	1G to 12G	13G	14G	15G	16G
P1	1-1	1d	1d	1d	▶
P2	2-1	1e	1e	1e	⏸
P3	3-1	1c	1c	1c	ALL
P4	4-1	1g	1g	1g	SINGLE
P5	5-1	1f	1f	1f	RANDOM
P6	1-2	1b	1b	1b	CD TEXT
P7	2-2	1a	1a	1a	REPEAT
P8	3-2	col	—	—	▶ 1
P9	4-2	2d	2d	2d	PREVIOUS
P10	5-2	2e	2e	2e	BEST
P11	1-3	2c	2c	2c	ADLC
P12	2-3	2g	2g	2g	SCAN
P13	3-3	2f	2f	2f	CUSTOM
P14	4-3	2b	2b	2b	PROGRAM
P15	5-3	2a	2a	2a	—
P16	1-4	SEC	REMAIN	DISC	—
P17	2-4	3d	3d	3d	2d
P18	3-4	3e	3e	3e	2e

	1G to 12G	13G	14G	15G	16G
P19	4-4	3c	3c	3c	2c
P20	5-4	3g	3g	3g	2g
P21	1-5	3f	3f	3f	2f
P22	2-5	3b	3b	3b	2b
P23	3-5	3a	3a	3a	2a
P24	4-5	MIN	TRACK	RENTAL	—
P25	5-5	—	—	—	1d
P26	1-6	—	—	—	1e
P27	2-6	—	—	—	1c
P28	3-6	—	—	—	1g
P29	4-6	—	—	—	1f
P30	5-6	—	—	—	1b
P31	1-7	—	—	—	1a
P32	2-7	—	—	—	—
P33	3-7	—	—	—	—
P34	4-7	—	—	—	—
P35	5-7	—	—	—	—
P36	—	—	—	—	—

7.2 DIAGNOSIS

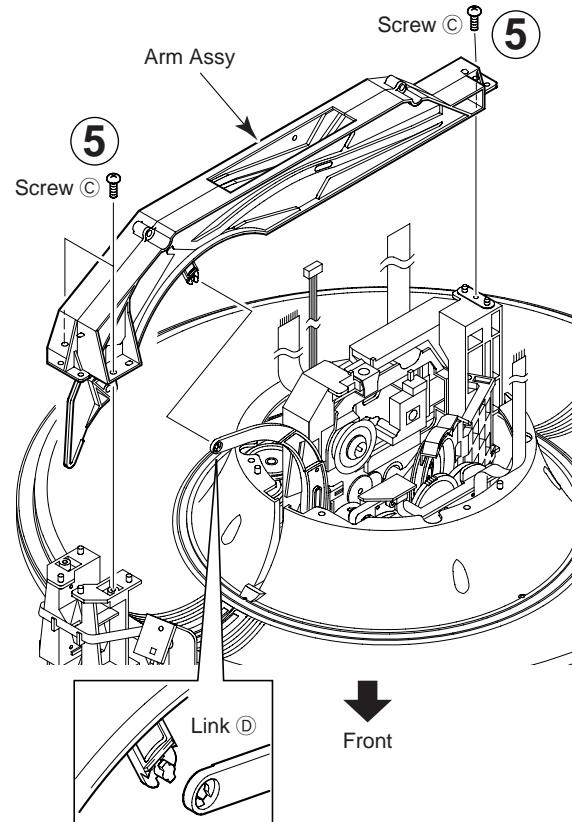
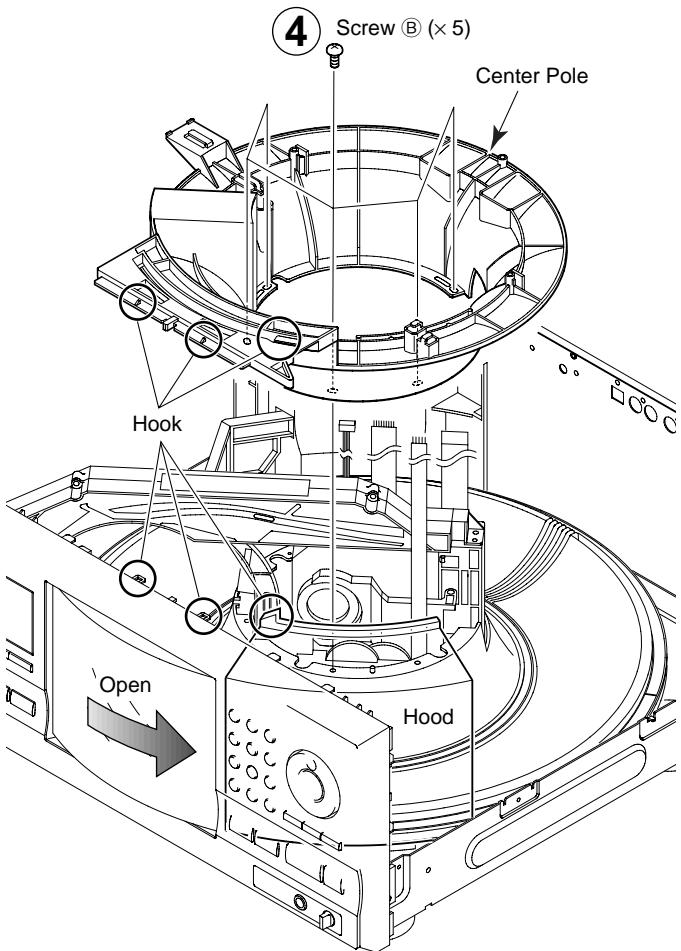
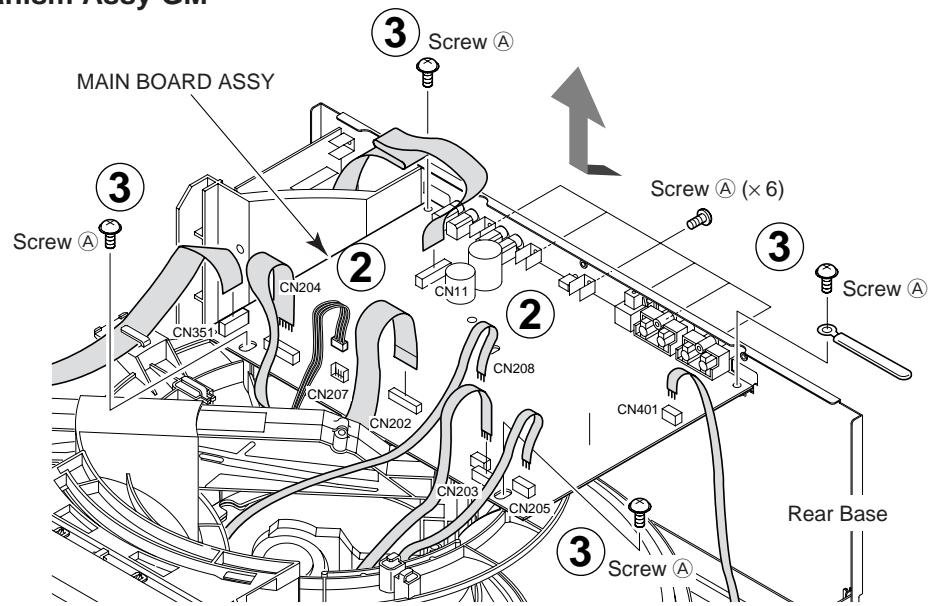
7.2.1 DISASSEMBLY

■ Removal of the Servo Mechanism Assy GM

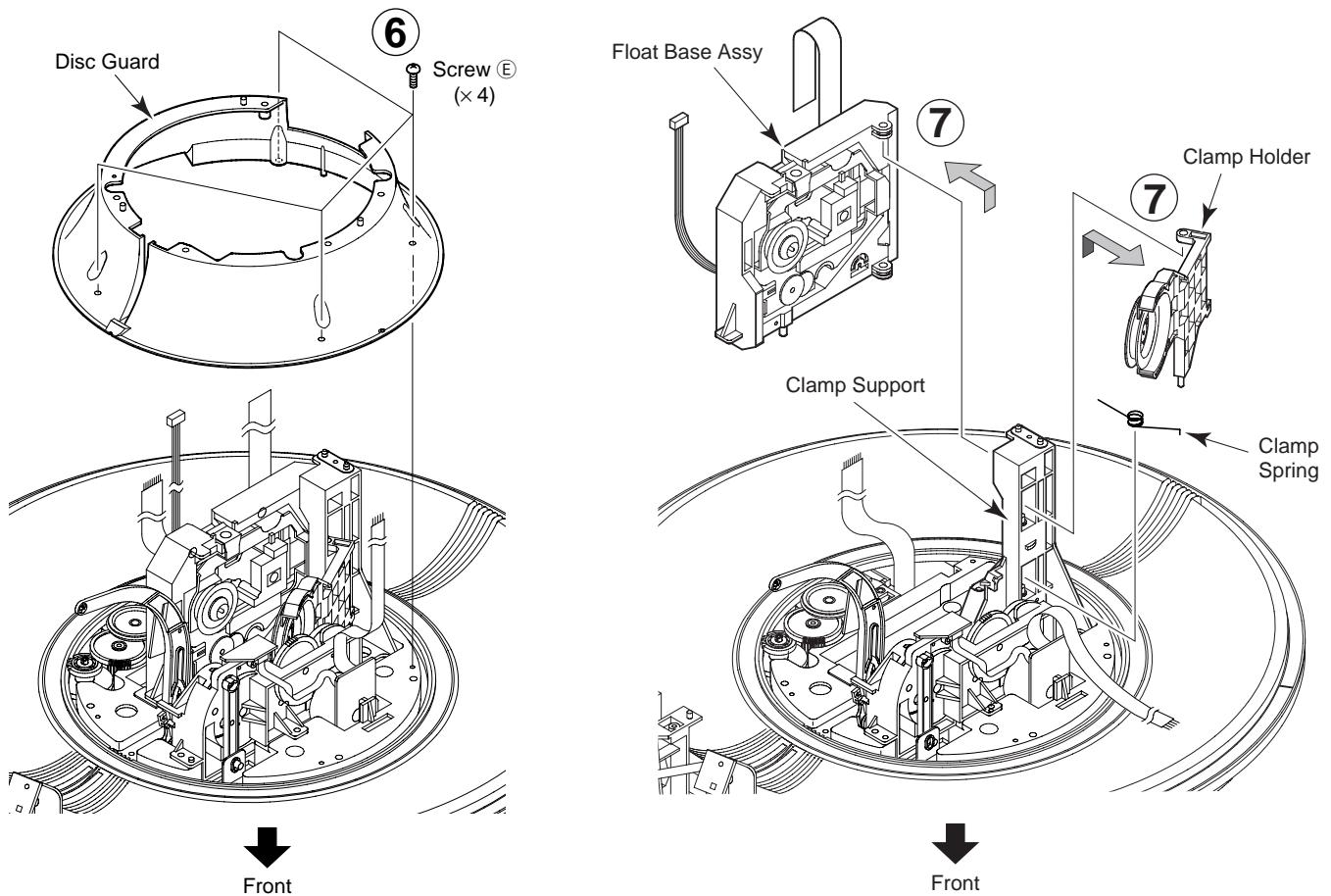
- ① Remove the Bonnet. (Left and right side: ×2, rear side: ×3)
- ② Remove the wires from the MAIN BOARD Assy. (9 places)
- ③ Remove the screws Ⓐ (10 screws), and remove the MAIN BOARD Assy.

Note) When the screws (6 screws) are removed in this condition, the mechanical unit can be removed as one entity. Refer to "2. EXPLODED VIEWS AND PARTS LIST".

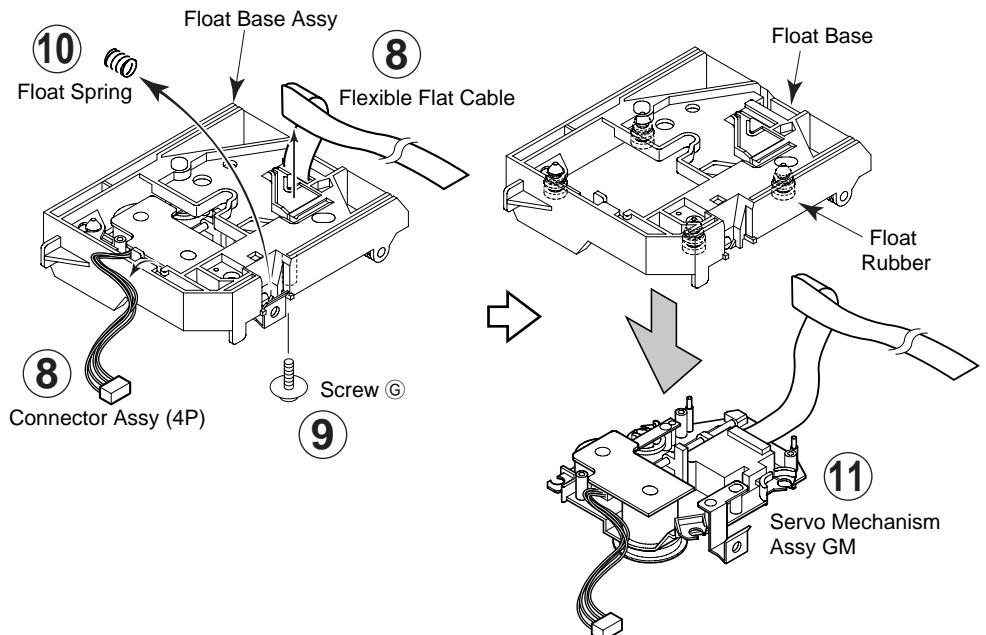
- ④ Open the Hood, remove the screws Ⓑ (5 screws), disconnect the hooks of Front Panel Assy and Hood (3 places), and remove the Center Pole.
- ⑤ Remove the screws Ⓒ (3 screws), remove the link section Ⓞ, and remove the Arm Assy.



- ⑥ Remove the screws ⑤ (4 screws), and then remove the Disc Guard.
 ⑦ Remove the Float Base Assy and Clamp Holder.

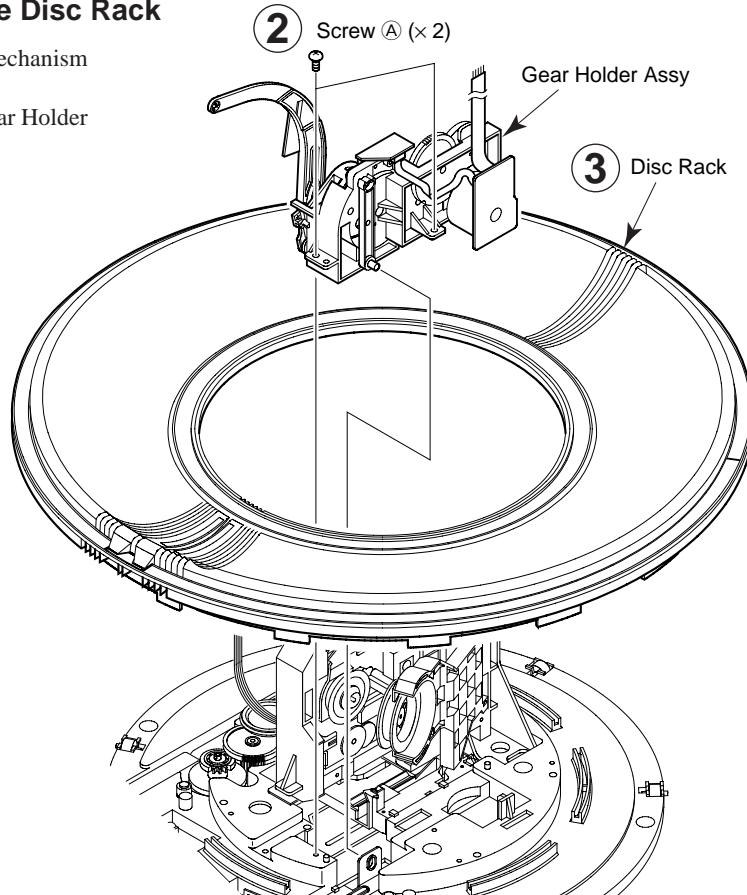


- ⑧ Remove the Flexible Flat Cable and the Connector Assy (4P) from the Float Base.
 ⑨ Remove the screw G.
 ⑩ Remove the float spring.
 (To install this part, line up the float angle side of the Servo Mechanism ASSY GM first, and press down on the float base side.)
 ⑪ Remove the float rubber from the Servo Mechanism ASSY GM. At this time the Float Rubber should remain on the Float Base side. (To install it on the Float Base when it has been removed, push it into place with a thin cylindrical object.)



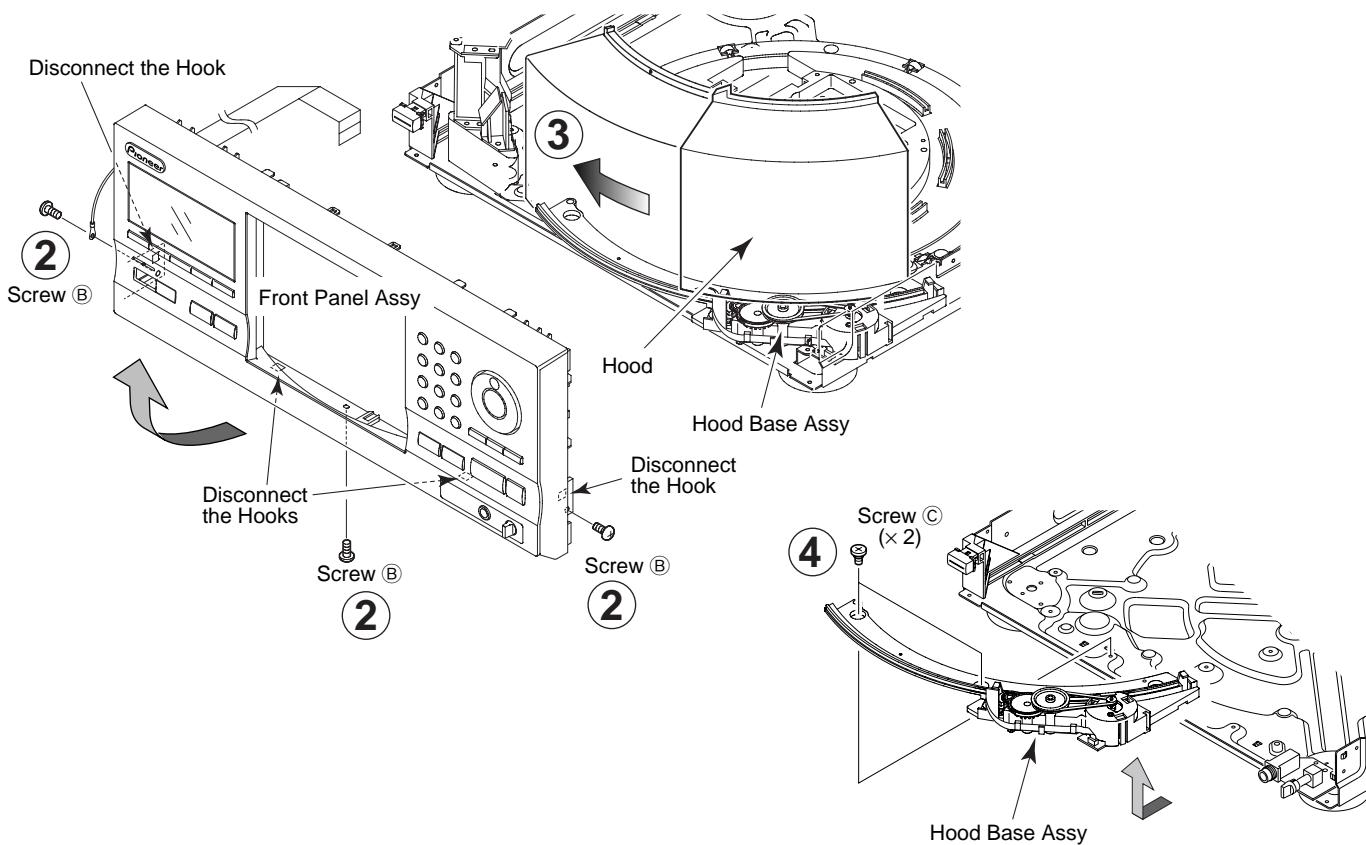
■ Removal of the Gear Holder Assy and the Disc Rack

- ① Perform the steps ① to ⑥ of " ■ Removal of the Servo Mechanism Assy GM ".
- ② Remove the screws Ⓐ (2 screws), and then remove the Gear Holder Assy.
- ③ Remove the Disc Rack.



■ Removal of the Hood and Hood Base Assy

- ① Perform the steps ① to ⑥ of " ■ Removal of the Servo Mechanism Assy GM ", and the steps ② and ③ of " ■ Removal of the Gear Holder Assy and the Disc Rack".
- ② Remove the screws Ⓑ (3 screws), and then remove the Front Panel Assy.
- ③ Slide the Hood to the left side and remove it.
- ④ Remove the screws Ⓒ (2 screws) and remove the Hood Base Assy.



7.2.2 ERROR CHECK DISPLAY

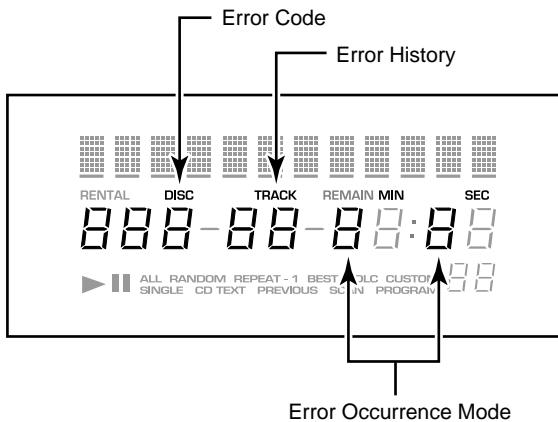
Error check mode (display of the error history for the last 16 times) is entered when the "TIME/CHARA" button is pressed in test mode. By looking at this display, it can be seen in which status the microcomputer has stopped.

(1) Explanation of the display

Disc No. = Error code

Track No. = Error history

Min : sec = Error occurrence mode



Press the "TIME/CHARA" button again to check past error codes. This switches the display. The contents of each display are as follows.

① Track No.: Error History

Display is possible from 1 to 16. The smaller numbers have occurred more recently. Accordingly, the error No. 1 is the error which has occurred most recently.

② Min : sec: Error Occurrence Mode

The internal mode at the time of occurrence of the displayed error is displayed. With Min : sec, the meaning is provided by the first digit.

Minutes digits

Display	Contents
0	During spindle stop operation
1	During disc return
2	During disc selection (during clamping operation at the time of 26)
3	During setup
4	During CDR setup operation
5	During TOC reading
6	During search operation on the disc
7	During play operation
8	During pause operation
9	During manual search

Seconds digits

Display	Contents
0	During hood closing operation and closed condition
1	During hood opening operation and open condition

③ Disc No.: Error Code Details

Note: A used display is displayed only when return to normal operation after error occurrence is not possible even when failsafe operation is performed.

<<< Rack Section >>>

User Display	Display	Contents
None	R0	<ul style="list-style-type: none"> Disc playing was tried after loading, but the disc could not be detected because there was no disc, the disc was upside down, the disc was dirty, disc loading had not been completed, etc. Focus was lost during disc playing because of disc scratches, dirt, etc.
None	R1	<ul style="list-style-type: none"> At the time of track selection during play, or when trying to play, the servo mechanism could not move to the position of the intended track within a fixed time.
U1	R3	<ul style="list-style-type: none"> Disc loading was tried, but loading was not possible within a fixed time. (The disc was not brought from the rack.)
	R4	<ul style="list-style-type: none"> It was tried to return the disc to the rack, but the disc could not be returned within a fixed time.
U2	R2	<ul style="list-style-type: none"> At the time of disc selection during play, or at the start of play from stopped condition, the selection mechanism could not move to the position of the intended disc within a fixed time.
	R5	<ul style="list-style-type: none"> After initialization of the selection mechanism, after selection mechanism NG, etc., forced rack section position detection is performed for the selection mechanism, but detection was not possible within a fixed time.
None	R6	<ul style="list-style-type: none"> Playing was tried after disc loading, but normal disc rotation was not possible because the disc was upside down, the disc was dirty, disc loading had not been completed, etc. During play normal rotation was not possible because of disc scratches, dirt, etc.

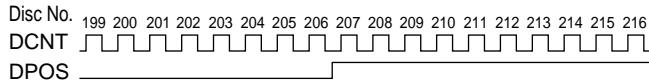
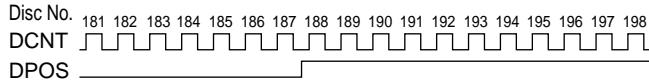
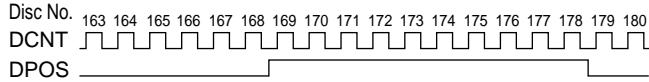
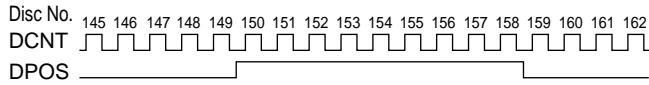
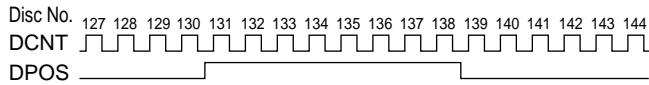
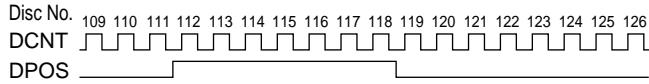
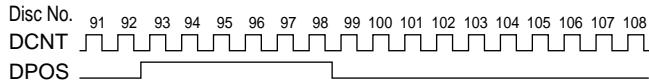
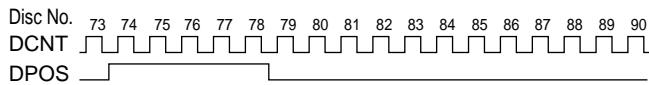
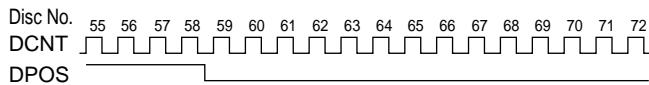
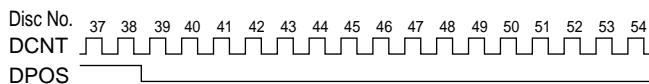
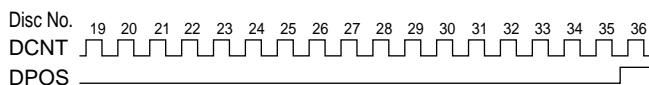
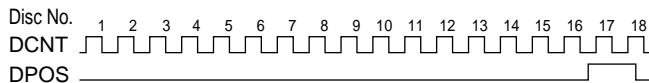
<<< Rack section >>>

User Display	Display	Contents
None	R7	<ul style="list-style-type: none"> When the position of the selection mechanism just before switching to disc selection operation os DCNT terminal = "L". (Normally, DCNT terminal = "H" exists when the selection mechanism is stopped, so that it can be assumed that the position of the mechanism has deviated for some reason. There is the possibility that a position deviation of the mechanism can cause a defect of the mechanism.)
None	R8	<ul style="list-style-type: none"> At the time of movement of the selection mechanism, a deviation has occurred between the present position of the disc and the disc position according to position detection. (It can be assumed that the waveform at the DCNT terminal and/or at the DPOS terminal has been miscounted. When a miscount occurs, a discrepancy occurs between the displayed disc No. and the counted disc position.)
None	R9	<ul style="list-style-type: none"> When the position of the mechanism became DCNT terminal = "L" during disc loading. (Normally, DCNT terminal = "H" exists when the selection mechanism is stopped, so that it can be assumed that the position of the mechanism has deviated for some reason. There is the possibility that a position deviation of the mechanism can cause a defect of the mechanism.)
None	RR	<ul style="list-style-type: none"> At the time of shifting to a different disc after play completion, the pickup does not return to the innermost circumference.

7.2.3 EXPLANATION OF DISC DETECTION

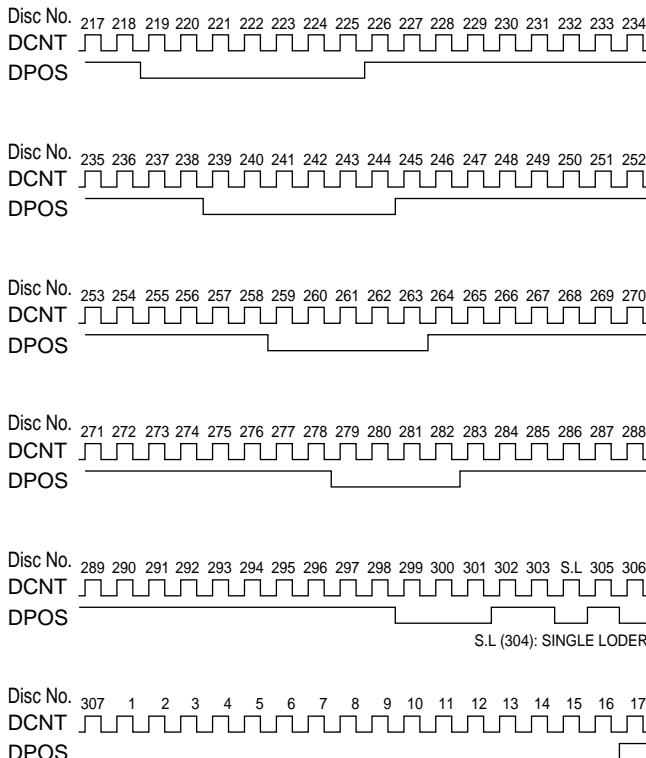
1. Detection of the rack position

There are two types of slits on the rear of the rack, and their combination is used to find which disc has been selected during rack rotation. The input ports (DCNT, DPOS) are as follows.



<<< Hood Section >>>

User Display	Display	Contents
U3	P0	The hood did not open within a fixed time. The hood switch was broken.
	P1	The hood did not close within a fixed time. The hood switch was broken.
None	P2	It was tried to force the closed hood open. The hood switch was broken.



Relation between input port DCNT, DPOS
and position of the mechanism

2. Position relation between position of the rack mechanism and photocell for disc detection

The relation between these two positions is as follows.

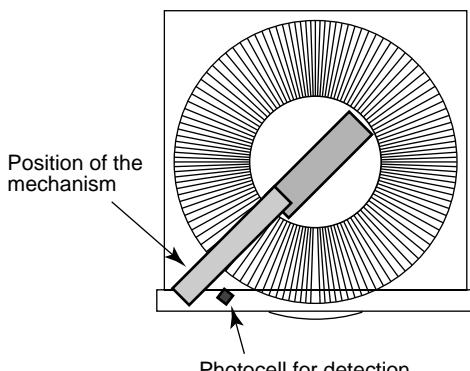


Fig.: The rack seen from above

The position of the mechanism and the photocell for detection are offset by a distance corresponding to 9 discs. Accordingly, the photocell for detection sees the disc number 9 discs before the position of the mechanism.

Example: Disc No. at the rack position : Disc No. 100
Disc No. seen by the photocell for detection : Disc No. 91

Note: The rack has 307 slits, but the slits 301 to 303 and 304 to 307 are the space for the side of the single loader and are not used. Disc detection also is not performed for them.

3. Disc Detection Method

3-1 In Regard to the Disc Detection Method

- Disc detection is performed after stabilization of the rotation speed after rack rotation start and completion of acceleration. (After start of rotation, detection starts after feed of 20 discs.)
- The input ports DCNT and DISC of the microcomputer are used for disc detection.

Port Explanation : DCNT : As described above.

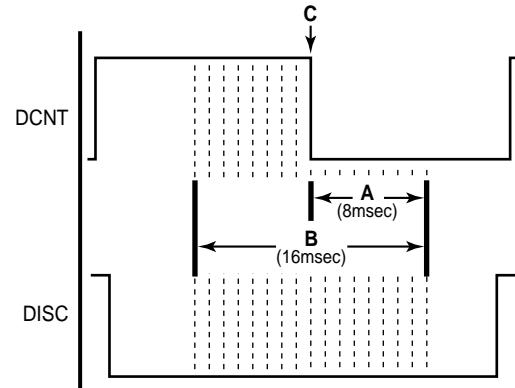
DISC : Input of the disc detection result

by the photocell for disc detection.

Input value "H" : No disc,

"L" : Disc present

3-2 In Regard to the Disc Detection Timing



- ① The microcomputer looks every 1 msec at the status (H or L) of the two inputs DCNT and DISC.
- ② 8 msec (A in the figure) after the drop of DCNT (C in the figure), the last 17 DISC inputs (B in the figure) are checked.
A disc is assumed to be resent when even one of them is "L".
- ③ No disc is assumed when DISC was "H" all 17 times (B in the figure) in ②.

Note: In regard to the drop (\overline{Y}) of DCNT

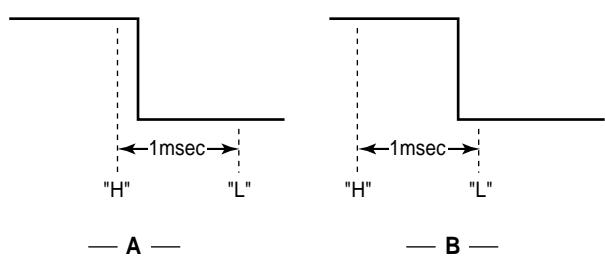
For looking at the drop or rise of DCNT, it is necessary to check DCNT every 1 msec for "H" or "L".

"H" → "L" means a drop (\overline{Y}).

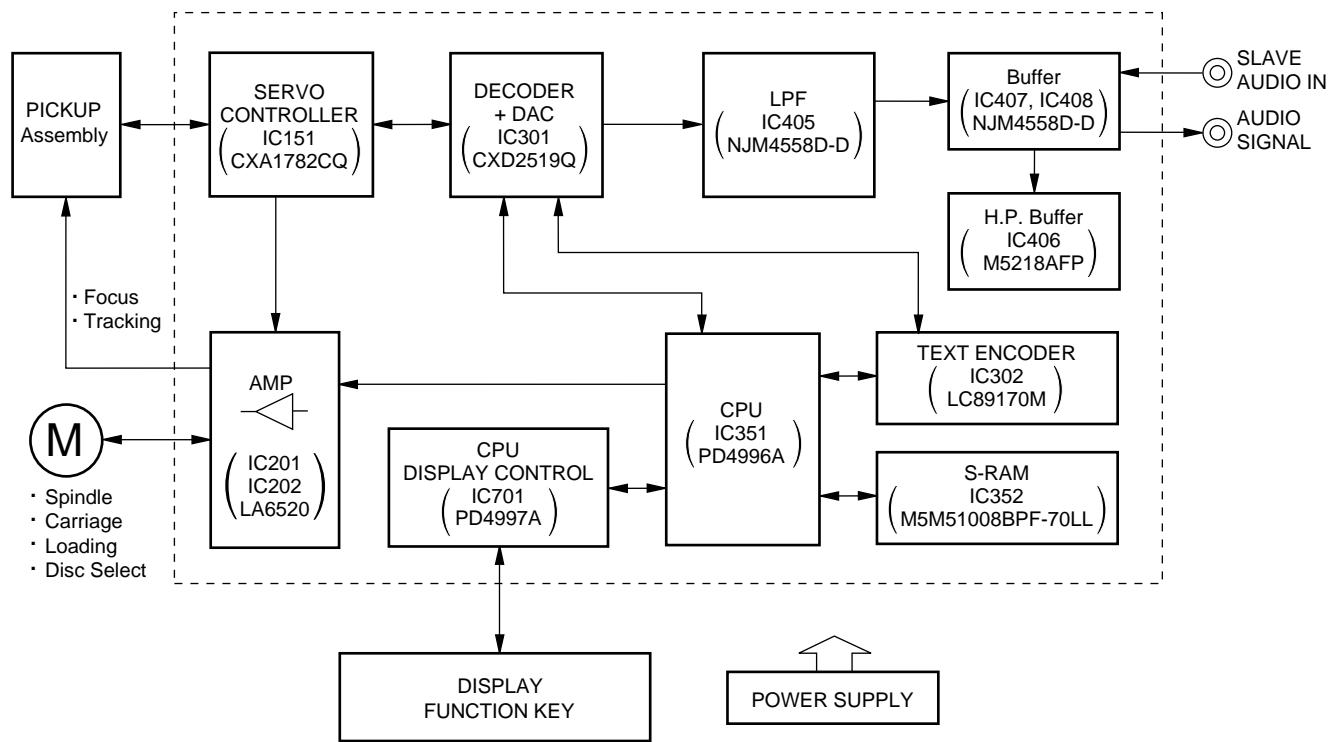
"L" → "H" means a rise (\underline{Y}).

For the timing, either one of the following A and B can be assumed. Accordingly, the point where a drop is found differs by max. 1 msec for A and B.

Thus, using the above figure, it can be said that the time from finding that a drop has occurred until starting to check for disc presence (A in the above figure) becomes 8 to 9 msec.



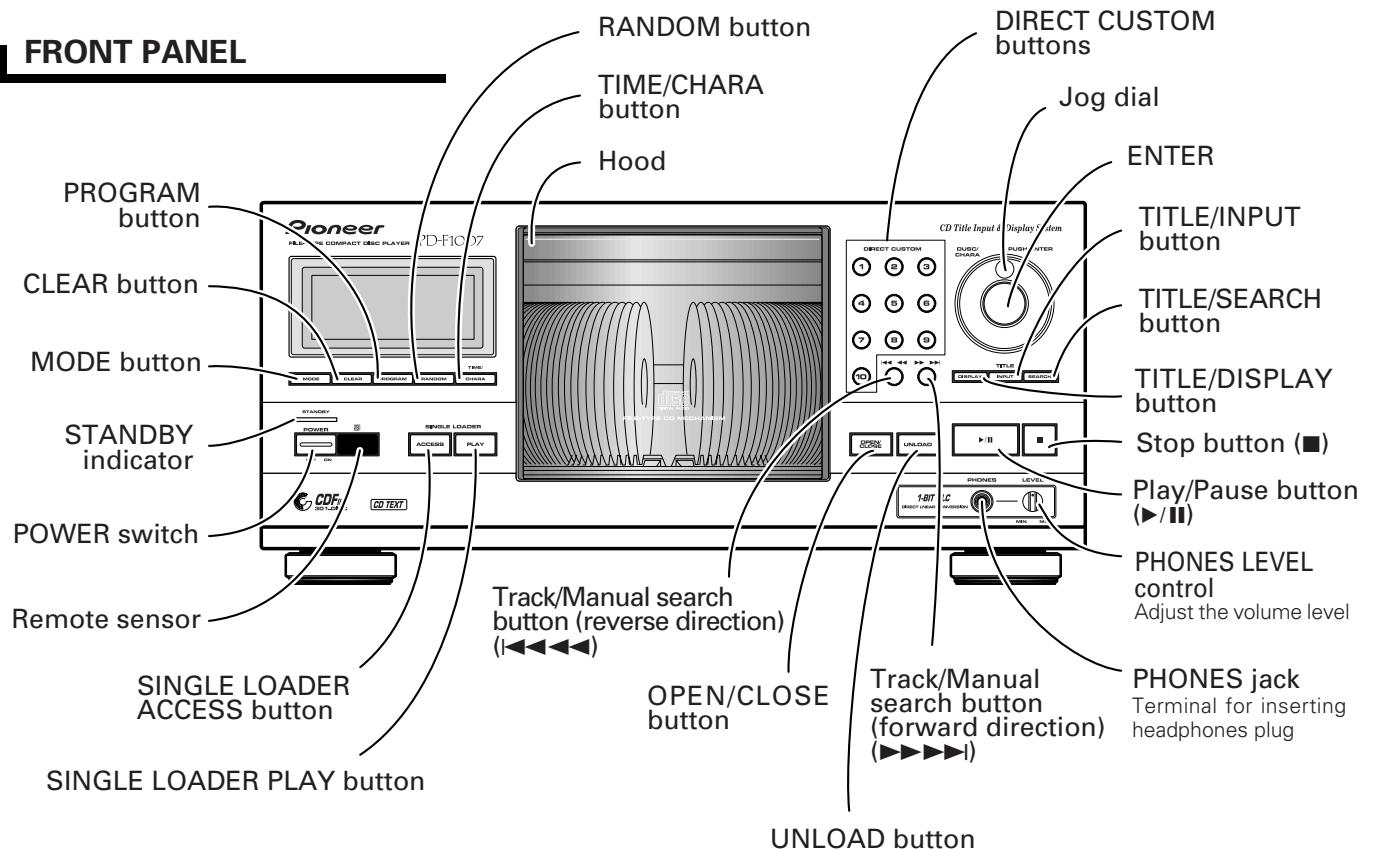
7.3 BLOCK DIAGRAM



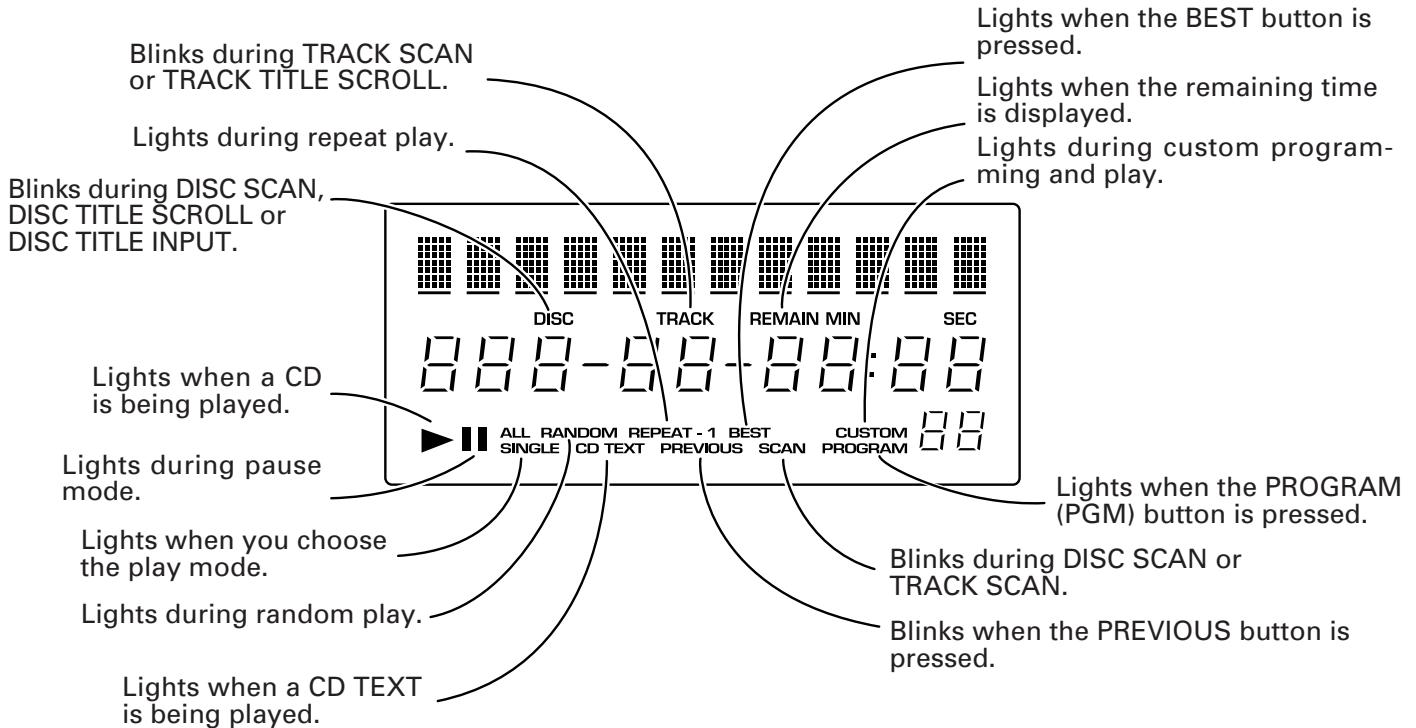
8. PANEL FACILITIES AND SPECIFICATIONS

PANEL FACILITIES

FRONT PANEL



DISPLAY



■ SPECIFICATIONS

1. General

Type	Compact disc digital audio system
Power requirements	AC 120V, 60 Hz
Power consumption	15W
Power consumption in standby mode	2W
Operating temperature	+5°C - +35°C (+41°F - +95°F)
Weight (without package)	8.0 kg (17 lb 6 oz.)
External dimensions	420(W) X 433(D) X 193(H) mm 16-9/16(W) X 17-1/16(D) X 7-5/8(H) in.

2. Audio section

Frequency response	2 Hz - 20 kHz
S/N ratio	98 dB or more (EIAJ)
Dynamic range	96 dB or more (EIAJ)
Harmonic distortion	0.003 % or less (EIAJ)
Level difference between channels	1.0 dB or less (EIAJ)
Output voltage	2 ± 0.3 Vrms (EIAJ)
Wow and flutter	less than ±0.001 % (W.PEAK) (below measurable level) (EIAJ)
Channels	2-channel (stereo)

4. INPUT Output terminal

Audio line output	
Control input/output jacks	
CD-DECK SYNCHRO jack	
Optical digital output jack	
Headphone jack with volume control	
MASTER/SLAVE Control input/output jack	
SLAVE Audio input	

5. Accessories

- Remote control unit 1
- Size AA/R6P dry cell batteries 2
- Audio cable 1
- Control cable 1
- Operating instructions 1

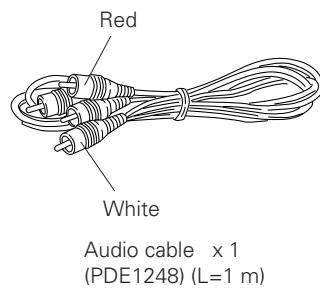
Note!!

Specifications and design subject to possible modification without notice, due to improvements.

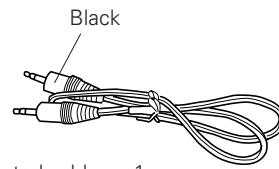
Accessories



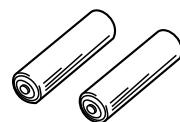
Remote control unit x 1
(CD-PD094)
(PWW-1139)



Audio cable x 1
(PDE1248) (L=1 m)



Control cable x 1
(PDE1247) (L=1 m)



Size AA/R6P dry cell
batteries x 2
(VEM-013)

Other included items

- Warranty card
- Operating Instructions